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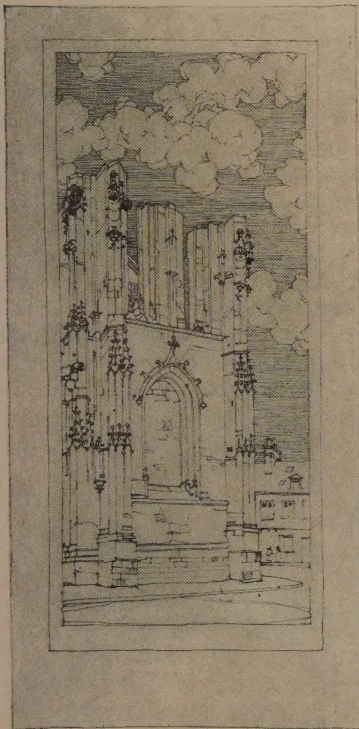
NO. 3

Dreux, Châteaudun, and Les Andelys

Three Worth-While Towns in Northern France

By *Samuel Chamberlain*

Illustrated with Sketches by the Author



Unfinished tower of the Eglise St. Pierre, Dreux.

ON the bumpy, incredibly leisurely line from Chartres to Rouen is the city of Dreux, by no means unknown to architects, and quite deserving of a visit from them, if only for its old houses and its four notable "monuments historiques." Of these latter, the superb belfry of the old Hôtel de Ville stands forth as one of the finest in France. From the east its well-proportioned profile is in harmony with the simplicity of that façade, and from the west, towering up at the end of the Grande Rue, there is just that wise choice of ornament to endow it with a restrained richness and a sense of excellent scale. The Gothic

tracery patterns are especially free and lovely.

A good snail's journey away is the yellow stone form of the Eglise St. Pierre, a product of those interesting periods when the late Gothic and the early Renaissance arts were mingling together. One of the towers is complete, very clear cut and fine, while the other for some reason was stopped abruptly, and remains untouched and unadorned, presenting a strange outline of unfinished piers against the sky.

Of an entirely different character is the École des Jeunes Filles, alias the Tribunal of Commerce, alias the Hôtel de Dieu, a sixteenth century block of stone and brick, capped by a huge blue-slate roof and sporting a curious iron-ribbed rose window. The simplicity of its mass is very

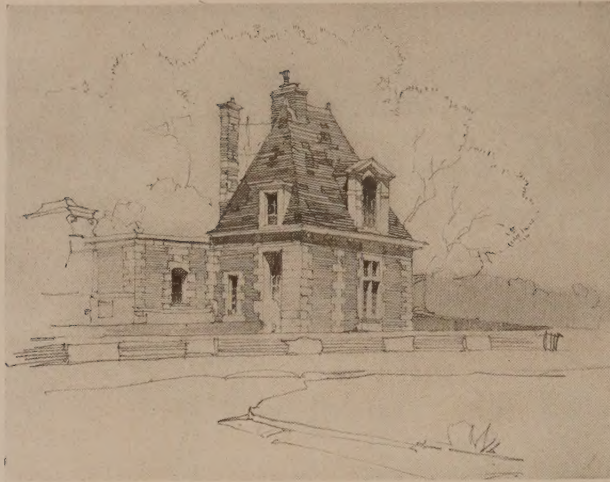
splendid; but this seems insufficient to attract any "ohs" or "ahs" from passing tourists.

Heralded afar in the guide-books, the advice of hotel clerks, and the railway posters as the greatest attraction in Dreux, is a Gothic work of the nineteenth century, the Chapelle Royale St. Louis. This was begun under the patronage of the Duchesse d'Orléans in 1816, to be used as a final resting-place for the remains of a large number of her very distinguished family. As such it holds a great deal of interest, but as architecture it does not exactly enthrall. The plan is, by necessity, dominated by a huge apse, in which the sarcophagi besport themselves. On the outside, a somewhat unpleasant spiked and squatty dome adds to the effect of a very elaborate wedding-cake.

A few rather noble old half-timbered houses are to be found here and there, and also there is a murky stream that is bordered with queer growths of habitations. In violent



Hôtel de Dieu, Dreux.



Corner pavilion, Château d'Anet, France.

contrast to their softness, are some other houses in Dreux, product of the most recent and villainous "villa" epidemic among some French architects. There is one long street of them, a wondrous menagerie of architectural monstrosities. Here are the dodo birds, the hippopotami, the giraffes, the yaks, and the gnus of the architectural world. Deformed, snub-nosed eaves, wild jutting gables, misguided half-timbers the size of kindling wood, blatant checkered designs in bright red bricks, roofs that howl, colored tiles that shriek, colored window panes that are as deadly to look upon as an oxy-acetylene torch—you have them all here in abundance. One learns quite as much in this zoo in seeing what not to do as in absorbing the really lovely things to be found in other parts of the city.

Châteaudun, a tranquil, unfurried place, built on a massive plateau, has quite as much to offer.

Châteaudun has been regularly devastated and re-

devastated, the last time being in 1870, when the Germans made a sorry wreck of it before finally capturing it from a handful of gallant defenders. One finds a simple emblem of the Legion of Honor over the door of the Mairie, a rare honor that bespeaks the heroism of the city fifty years ago. A large part of the town is, frankly, of little interest; but there are isolated buildings throughout and, of course, the consummately noble château, that make it very much worth the architect's while. The château, one of the best known and least visited, according to the French idea of things, has a majesty quite on a par with any of the châteaux of the Loire, although it is noticeably less pure. Its commanding position on the precipitous edge of the plateau is even loftier than Amboise or Blois, and the far-reaching view that one has from its terraces and the chestnut covered park that adjoins it is fascinating. The huge, compact hulk of the château shoots up from the narrow roadway along the river's edge, supported by comparatively slender buttresses, and terminating in a splendidly preserved series of turrets and towers and dusty orange brick chimneys. On one end there are the red brick ruins of a chapel long since destroyed, but otherwise there is nothing to disturb the seasoned brown color of the stone. Although the château is the property of the Duc de Luynes, it has remained unoccupied, save in time of civic distress, as far back as the oldest, one-toothed inhabitant can remember. Inside, as a consequence, there is to be found much mediæval atmosphere, and a strange, impressive emptiness that really has more of an effect upon the sensitive beholder than most carefully furnished affairs, especially when the furnishings are not of the period. Many of the huge whitewashed rooms are in perfect condition, their fireplaces finely preserved monuments of stone-carving. The only attempt at restoration is recent and hideous to a deadly degree, the small interior temple having been thus afflicted. The old tenth century dungeon tower, with walls four and a half metres thick at the base, is the most feudal and atmospheric of all, with seeming acres of ivy climbing over it and up to the blue dunce-cap roof. In the interior



The mill, Châteaudun.



Fifteenth-century house in Châteaudun.

court, one encounters some magnificent flamboyant tracery in two of the huge pointed windows, and bits of incredibly lacelike detail around the spiral staircase, an accomplishment in stereotomy and early Renaissance detail that almost rivals Blois. There is a guide to the confines of the château who is a delightful combination of a cynic, a scholar, and a decided humorist. Abundant sketching privileges for the asking.

Although the centre of Châteaudun has been very effectively pillaged, there remain two interesting churches, the Eglise de la Madeleine, with a strange façade of plastered-over arches and vaults and vague details, revealing even a wilder profile, like that of a gigantic series of saw-teeth. Another church, the Eglise St. Valerien, shoots a thorny spire into space and shelters a flock of fish-venders around the base of its decaying buttresses. A shining example of architectural vivisection is seen in the entrance to the cemetery, where a heap of incongruous detail and tracery has been loaded into the remains of what was once a very splendid Gothic doorway. But the really lovely church of the neighborhood is the mellow old Eglise St. Jean, a kilometre or so across the valley. Its homely, graceful mass fits charmingly into the countryside, and its simple Romanesque interior, its quiet, handsome profile, both, are typical of the best in French country churches.

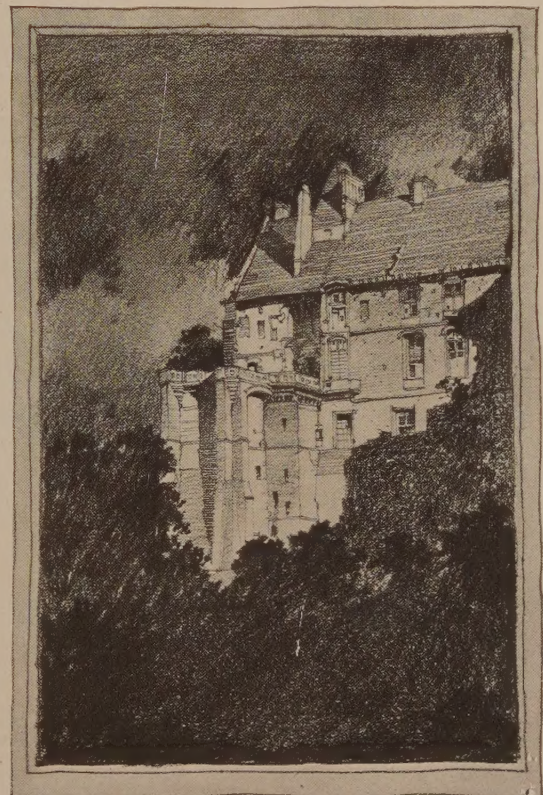
Quite adventurous one feels in a mild way, to ferret out the odds and ends in the newly aligned streets of Châteaudun, for there are to be found many remnants, gateways, bits of detail, and windows that have been accorded a place of honor in the newer structures. There is a well-designed monument in the centre of the town square, built some seventy years ago, that suffered little during the Franco-Prussian War, while around it is a square of closely grown chestnut-trees, obliterating the second stories but not the gayly painted shop fronts or the steeply pitched blue-slate roofs above them.

Small-town museums are often fantastic, but Châteaudun possesses one of particular interest, as it represents the

life-work of but a single man, the Marquis de Tarragon, an inveterate and indefatigable naturalist, who willed his entire collection to the city upon his death, thirty years ago. Here is an unbelievably complete collection of every sort of bird from a chickadee to an Australian mugwump and a South American condor. Flamingos, boa-constrictors, gila monsters, six freak rats with their tails knotted at birth, American eagles, Roman safety-pins, and neolithic stone hatchets all dwell peacefully in one room, while in the next we encounter chimpanzees, an East Indian raincoat carefully sewn from human skin, half-hatched eggs, birds of Paradise, Gothic stone capitals and massive iron travelling trunks, all equally tranquil. The concierge has three teeth, a pet dog, and a most gracious and educative manner. Stray architects are assured of more than one eventful day by visiting Châteaudun, city of silent nights, save for an occasional brawl at the corner "bistro," and surprisingly few tourists.

Les Andelys is different. More countrified and peaceful, in the midst of a greater natural beauty, and decidedly more romantic, the effect of these two villages banded in one is not at all overwhelming, but nevertheless stimulating to a decided degree. Artists flock here by the dozen. Many have converted old half-timbered houses into summer homes for themselves. One look at the magnificent rolling hills that rise up above the two villages, studded with intermittent dashes of blue-white cliffs, and one ceases to wonder why every sunshiny day witnesses a dozen artists set forth, heavily laden with easels, stools, canvases, paint boxes, lunch baskets, and a determined look.

Of noteworthy buildings in Les Andelys, there are but a few, but these are of a rare distinction. In the Grand Andely, wedged farther up in the valley, there is another of those many period churches, almost an architectural dictionary in itself, but lacking unity as a consequence.



The château at Châteaudun.



HOSTELLERIE DU GRAND CERF
GRAND ANDELY

One feels that too much experimentation went on. There is nothing particularly inspiring about the ensemble save from one fortunate angle where the simple masses and château-like towers pile up most effectively.

Less than fifty yards from the church is a treasure indeed, in the fine old fifteenth-century Hostellerie du Grand Cerf, a roadside inn for three hundred years and still going strong. Here is as much of the "authentique" as one can hope to find in a house so old. Its fine, half-timbered exterior, both outside and in the court, is intact. The majestic winding staircase, with red-

tilled treads polished like copper kettles, and the famous old fireplace remain exactly as they were. By wandering far enough in the corridors one discovers a bathroom, but if that is the only modern touch, it is a gratifying one. There is more atmosphere in the place than can be found in all the hotels of Deauville, Biarritz, and Nice put together.

Hidden in a crooked street is a strange little slate-covered belfry slapped up against a half-timbered house, but aside from this, The Grand Andely has only its rickety but most authentic houses of the fifteenth and sixteenth centuries to attract attention. These are quite as interesting as the old houses in Rouen, for, with their two well-designed floors and commodious loft, they are as typical of the small towns of the period as are the five and six storied hulks in Rouen.

The artist colony is partial to The Petit Andely, for here is the winding Seine and its endless, slow-moving stream of canal-boats, bordered by haughty cliffs and a patchwork of parallel fields, ochre and blue-green and soft olive, with violent dashes of red and lemon-yellow from the vagrant poppies and mustard weed. But above all, the village is noteworthy for its delightful little church and the famous Château Gaillard, masterpiece of Richard, Cœur-de-Lion and scene of many a page in French history, the jagged ruins of which tower above everything in an atmosphere unbelievably romantic. A huge, impregnable fortress this must have been at one

time, fortified by its altitude on three sides, triple bâtiments on the other; moats, ditches, and walls fifteen feet deep. Its remains are most gratifying to visit, once one has regained breath from climbing up the precipitous hill. There are a thousand colorful vistas of the country below, framed in the many battered remnants of windows. The Seine winds for misty miles beneath you. A faint human clatter comes up from the village at the foot

of the hill. But there is no distraction sufficient to keep the imagination from running a wild chase through the passages and caves and towers and stairways of the crumbled fortress. And incidentally, there is never a sign of a uniformed attendant, nor even a sign bearing the well-known "Défendu." Château Gaillard requires poets and writers of children's fairy stories to render it justice.

The well-nigh perfect little church of Saint Sauveur should compel immediate and understanding admiration from an architect. Apparently an early thirteenth century church, it is noteworthy for its fine state of preservation and its utter simplicity and beauty of proportion. Rarely is a bit of ornament to be found on it, but then it is found to be

beautifully modelled. The church is built on the plan of a Greek cross, with a cluster of small chapels about the apse, and many perfectly practicable uncentred arches sprouting about in a most spontaneous manner according to the whims of the builders. The choir has an unusual triforium of twin arcades that is admirable in proportion.

A recital of the main points of interest in Les Andelys still leaves much to be said. There is the ineffable charm of Normandy about the place, the smiling cordiality of the people, the thick, heavy quiet that descends upon the valley before daylight has definitely faded.

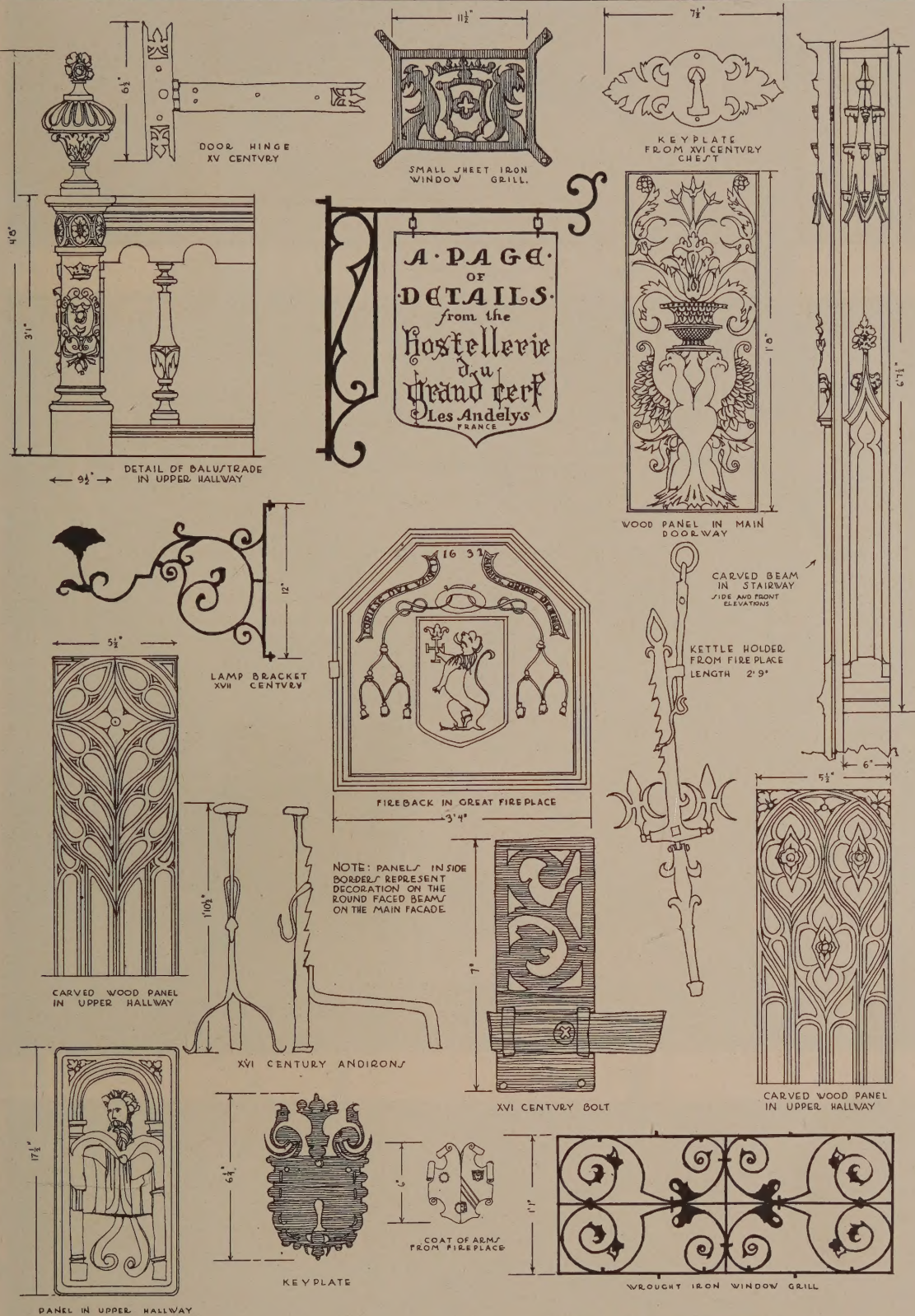
Together with Dreux and Châteaudun, it is very much of a distinguished and separate entity among the towns of France.

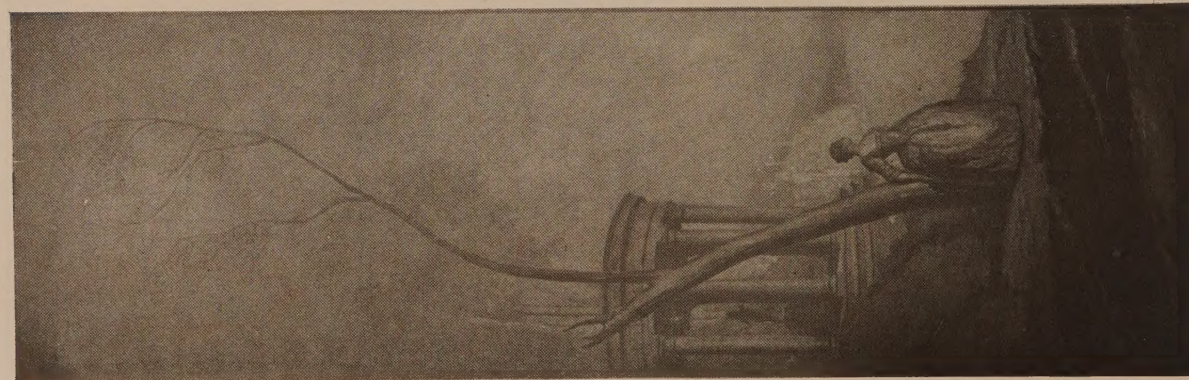


Château Gaillard, Les Andelys.



A CORNER OF THE CHURCH ST SAUVEUR
PETIT ANDELY - JULY 7





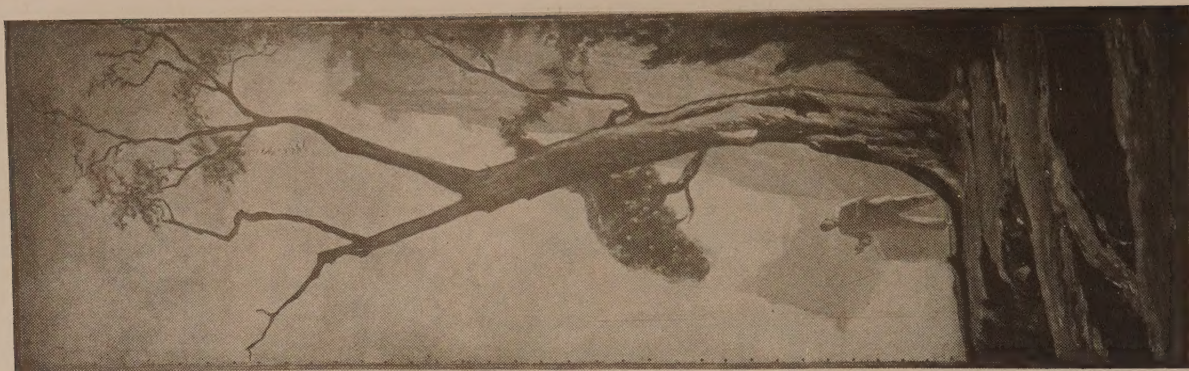
Panel at Side of Doorway.



Panel in Dining-Room, M. Henri Halphén, Paris, France.

ONE OF FIVE PANELS, TEN FEET HIGH, IN SANGUINE TONES IN A FORMAL GRAY-PANELLED ROOM.

By Ernest Peixotto.



Panel at Side of Doorway.

Traditional Forms for Electric Lighting

By Alexander King

Illustrations by Courtesy of Mr. Wm. Adams Delano, of the Firm of Delano & Aldrich

AMONG the many problems to be solved by the modern architect genuinely interested in producing fine detail, perhaps the most important of all is the matter of lighting fixtures. To bring together the beautiful traditional light-holders, originally planned for candles or oil, and modern scientific electricity calls for real genius and a thorough understanding of just which traditional forms are appropriate for adaptation. Many of the earlier, more ponderous types are unappreciated because of our modern aversion to shadows, while the delicately wrought designs of the late eighteenth century are often too slender to conceal the necessary wiring.

To design a really good lighting fixture involves both scientific ingenuity and artistic ability of the finest type. The eye is instinctively drawn to the source of light, and this condition itself makes it vitally important that the fixture be both beautiful and practical. Couple to this the fact that our modern rooms are far more brilliantly illuminated than those of any former

age, and the importance is obvious. It follows, then, that a really good electric fixture must be practical, beautiful in design, and in scale with its surroundings.

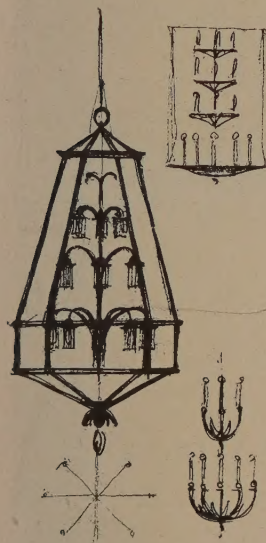
That such pictures are possible is proven by the accompanying illustrations. The original idea is shown in the pencil sketches with their accompanying notes: the final achievement, in some cases, in the photographs. There are many steps necessary between the first and last stages—three-inch scale studies, full-sized drawings, and, most important of all, close co-operation and goodwill between the designer and the maker of the fixture. No matter how skilful the architect may be, he could not go far if the maker were not helpful in carrying out the

intent of the idea. This often involves change of material and even of form, after parts have been cast or wrought.

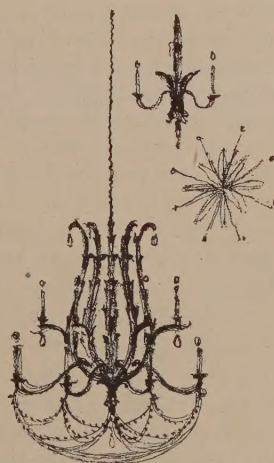
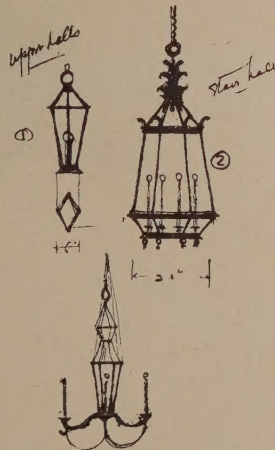
The excellent results of this method are fully shown in the instance of an exquisite lantern designed for the stairwell in a town house, inspired by classical examples of the



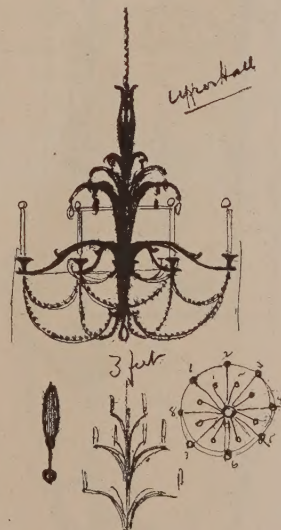
Drawing-room and stair hall, residence, Willard Straight, New York City.



Stair-hall fixture.



Drawing-room fixtures.



RESIDENCE, WILLARD STRAIGHT, NEW YORK.



Upper hall, H. I. Pratt residence, New York City.

eighteenth century. To light adequately this important space, and at the same time produce a graceful lantern true to type, represents a real triumph of mind over matter.

Almost any fixture other than the one shown would inevitably throw unpleasant shadows on the stairs, yet it is only by careful study of the design that one becomes aware of this.

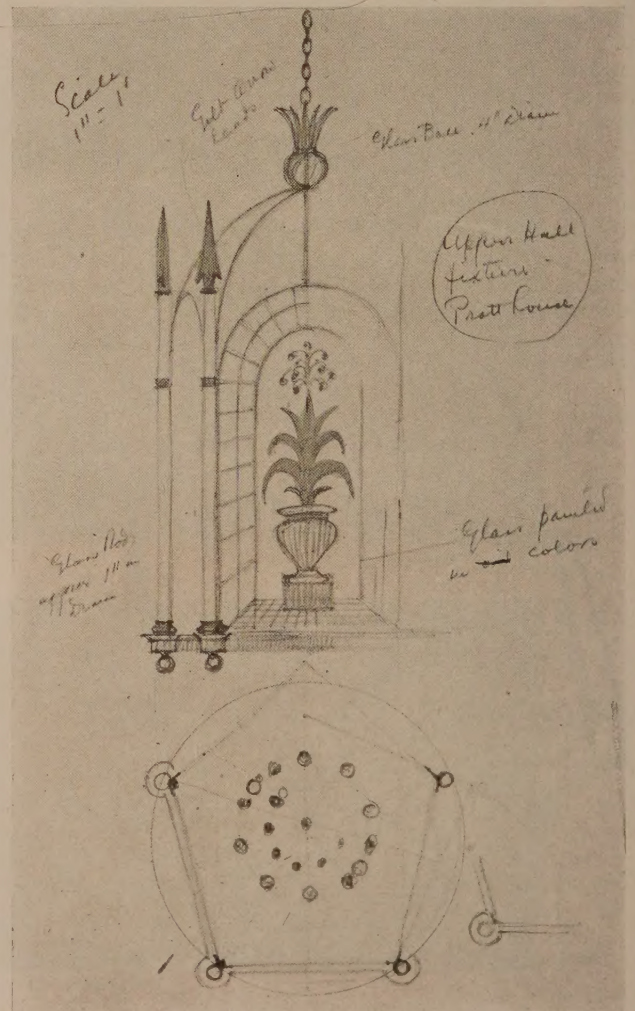
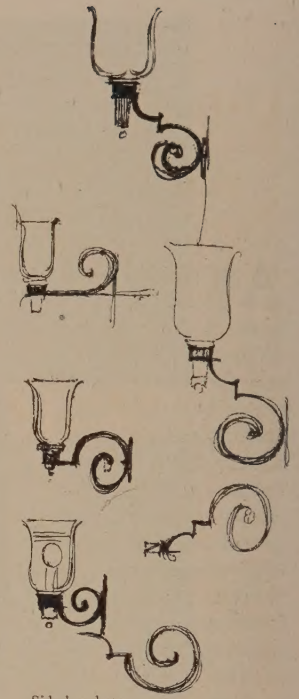
Another skilful arrangement is shown in a group of sketches and photographs of fixtures for a large town house. In these, bars of glass and mirrors form the basis of the designs—metal is used very sparingly—so that in spite of their size these fixtures have a lightness which is quite delightful. In the large room there are two wall-brackets and four hanging fixtures. The wall-brackets and the hanging fixtures are variations of the same motif, which gives a sense of relationship and scale. In the hall lantern the main source of light is a powerful reflector behind a mirror screen in the centre of the fixture, which throws a diffused light on the vaulted ceiling and thence on to the truly remarkable pictures on the walls, and yet the source of light seems to come from the candles.

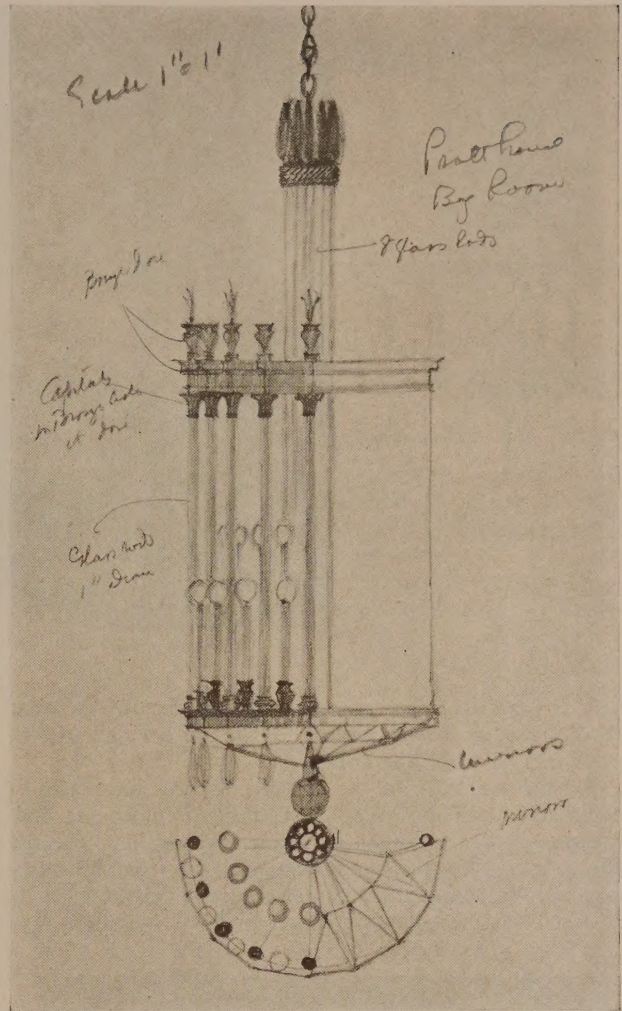


Another rendering of the same inspiration is shown in the slim candle-holder for four lights used in a circular reception-room with painted walls. Compare the perfection of refinement in this finished fixture with the more ornate suggestions of the sketches, and it at once becomes evident that elimination is not the least of the prerogatives of the designer.

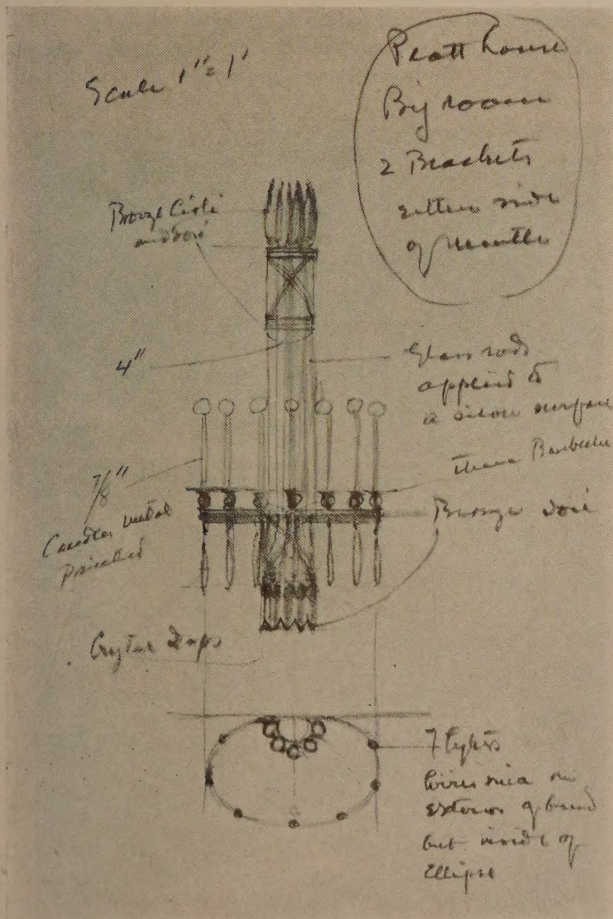
The uses to which a room is put are always deciding features in its lighting arrangements. Wall-brackets are often necessary if the room is intended for reading or when a top light may prove disturbing and a combination of both central and wall lights is quite usual for large rooms.

The consulting-room in the offices of the architects responsible for all the delightfully adequate designs shown, combines side-lights and a central chandelier in a particularly happy arrangement, avoiding on the one hand slavish





Hanging fixtures.

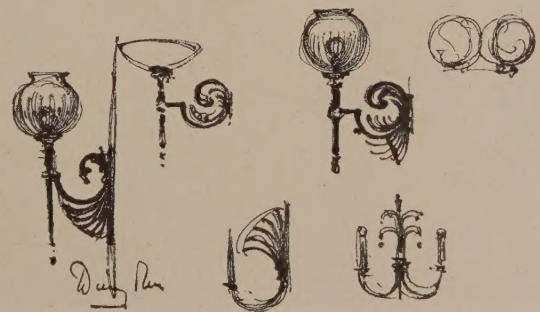


Side brackets, big room, residence, H. I. Pratt, New York City.

repetition in design, and on the other the often seen lack of coherence in treatment of chandelier and side brackets. The finish used for these fixtures is especially good, the ground a dark green with ornament in gold.

The lights in the entrance-hall by which one reaches this consulting-room are also particularly appropriate. Four graceful wrought-iron scrolls, attached to crimson cords by brass loops, form practical holders for candles in brass hand torches, protected by clear glass wind-shields. It is impossible to imagine better fixtures for the place.

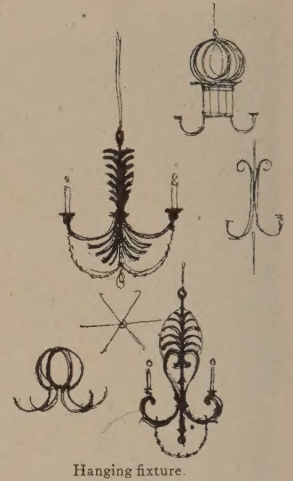
Suggestions for a library are shown in the little sketch, using geographical globes, as a central motif, and the same



Side brackets.



Circular reception-room, residence, Willard Straight, New York City.



gifted designer has done some marvellous fixtures in clear and colored glass, to say nothing of the more widely known types enriched with crystal lustres.

A salient feature of the lighting fixtures illustrated is the material and finish employed; and this of course does not come out clearly in photographic reproduction. Almost without exception the materials used are comparatively inexpensive in character, thus following the custom of early architects and designers who did not find it necessary to

bolster up their work by producing it in costly metals or showy finish. Wrought iron, brass, lead, tin, and various alloys of metals are the materials specified, although frequently commercially made fixtures are either made or finished in far costlier materials, thus attempting to compensate for inferior and uninspired designs. The exquisite simplicity of the fixtures illustrated, coupled with a nice choice of materials adapted to the particular needs of each instance,

(Continued on page 82)



Entrance hall.



Reception-room.

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Editorial and Other Comment

Our Set-Back Architecture

WE have been learning a new architecture in New York, born of the law requiring buildings that are to go beyond a certain height to recede in graduated stories from a specified point. They are "set-back" as they ascend instead of going on their aspiring ways among the clouds in unbroken masses.

In order to accomplish this, new dispositions of the upper stories have been necessary, and a lot of thought given to maintaining the right amount of light and air, without too much sacrifice of rentable space.

Some of the first attempts showed that the problem was by no means an easy one, and even with the increasing experience there are still reasons for doubting whether we shall ever again find the same satisfaction, from an artistic view, in these enforced compromises in designs. There are broken lines, many angles, piling up of smaller buildings upon the larger, that in only few instances have proved really satisfactory.

But there are signs of promise and we are confident that our architects are on the way to a solution of this new architecture. The surprising thing is that so much has been accomplished already. The chief difficulty with some of the designs seems to be in the final set-back taking the form of a tower that is too small and lacking in proportion to the general mass.

In many ways Mr. Harmon's great Hotel Shelton building on Lexington Avenue seems the most monumental and successful solution of this difficult problem yet built. We shall have more to say about this particular instance in a later number.

Mr. Hood's striking and picturesque tower for the American Radiator Co., on the north side of Bryant Park, built of black brick and relieved with an artificial stone of a golden yellow, has already been the occasion of much discussion, and there are those who even think that when it is completed it will take its place among the modern towers of commerce with considerable distinction.

Certainly we can no longer be accused of lacking initiative, of being tied hard and fast to tradition.

It was not so many years ago that the Bush Building on 42d Street was talked about in terms of disapproval by a few of the knowing ones, but it has long since taken its place as one of the most distinguished high buildings in the country.

Anything new is different, and that is hard to forgive unless the new thing is our very own.

We shall see what we shall see in this set-back business, as time goes on and the idea spreads over the country. There are signs enough that can be read by those who will, that the city of the future, with its more attenuated towers and broken-roof lines, may present, after all, a much more interesting and varied composition, and some recent imaginative drawings have visioned the future city in ways that have the dramatic appeal of a wonderful stage-setting.

The law says, let us have more light and air, and the architects are meeting the requirements with surprising ingenuity and skill.

Henry Bacon—1866-1924

IN the death of Henry Bacon America has lost one of its greatest architects and a man whose high ideals in his profession and fine personal character had a profound and uplifting influence on American art.

It was only last May that he received the greatest honor within the gift of the American Institute of Architects, the Gold Medal of the Institute, presented to him by President Harding on the steps of the beautiful Lincoln Memorial, his masterpiece, and as well his own monument, and one of the outstanding buildings of the world.

Architectural Exhibitions and the Public

EVERY year the Architectural League of New York has an exhibition that should appeal to the public at large, and every year there is a surprising lack of interest upon the part of the man in the street. The galleries are usually full of interesting exhibits, from the attractive city and suburban houses to the newest thing in skyscrapers, and the associated arts and crafts are well represented. But Mr. Public has other things to occupy his time, and, though he may be much interested in the thought of some day building that house of his dreams, he is too busy to take the time to go to the League shows to see what the authorities consider the best of current design.

In the case of this year's League show, he will come away, if by chance he should go, impressed by the fact that even the powers that be found nothing worthy to receive the usual prizes in architecture, landscape-gardening, and painting. Of course this is an exceptional condition, and in spite of the fact the show contains a number of exhibits that offer instruction and suggestion.

But the man in the street needs to be called by something a little out of the ordinary, and apart from some freaks in the way of modernistic murals there was little to be called exceptional. We rather got the impression that even the men who constituted the juries of award must have felt that they were wasting valuable time in trying to pick subjects worthy of the usual medals.

The prizes in sculpture went to Chester Beach for his fountain "Glimpse of the Sea" and to Brenda Putnam for her fountain figure.

The Michael Friedsam medal for conspicuous service in the industrial arts was awarded to Mr. Henry Creange, of Cheney Bros.

The work of the students of The American Academy of Rome seemed to show less promise than for several years.

We'd like to see an exhibition under the auspices of the League devoted entirely to designs for small houses and moderate-cost apartments. There is not much reputation to be made in designing a little house, under ordinary condi-

tions, but just now the man who will design a small one or an apartment that can be standardized and built all over the country at a moderate cost will be called blest by generations to come.

The job-lot builder now leads the architectural taste of millions, just because so many architects haven't time to bother with such small fry.

Mr. Peixotto's Decorative Paintings

THE use of the more or less conventionalized painting as a decoration for the walls of rooms in private houses and for the adornment of the overmantel has become much more common in recent years.

In many apartments and houses these decorative schemes are taking the places of the familiar easel pictures, and there seems a tendency upon the part of many architects to relegate to special rooms the usual highly ornamented gold frames that too often take up a lot of space and bury the encompassed painting in a surround of ornament that reflects light unpleasantly and submerges the picture entirely. The easel picture, so called, is after all a comparatively modern idea, with its separating frame, and the vogue of the wall painting, in harmony with and a part of the architectural ensemble, existed long before the hanging of a group of unrelated pictures was thought of.

Among the artists who have devoted much time and skill in recent years to the painting of wall and overmantel decorations is Ernest Peixotto, known to all architects as the Director of Mural Painting in the Beaux-Arts Institute of Design and as the Chairman of the Department of Painting in the Fontainebleau School of Fine Arts.

Two of Mr. Peixotto's decorations were exhibited in the recent show of the Architectural League in New York, and we are privileged to present other examples of his work in this number.

The easel painting will always have its place, but there is a more general tendency to set apart a special room for their display, with proper lighting. The formal and conventional wall decoration and overmantel can be made to harmonize in color and in the space they may occupy with their architectural surround and with the special-period furnishings of particular rooms.

A Questionnaire from the American Institute of Architects

Submitted to Each Member by the Committee on Architectural Relations

THE practice of architecture seems to be undergoing tremendous changes. Architects encounter new forms of competition; speculative builders seek to encroach more and more on the architects' field of endeavor; architects in some localities are combining in groups, especially for the doing of public work; some architects are frankly combining with their practice the business of building, contracting, and of financing building operations; some architects are seeking to enhance with the reputation of the dead or retired the impression made by their less talented creations and doubtful practices.

Many architects think the Institute should become a majority representative society establishing the policies of the profession regarding all these things, while others think the Institute should be a superior "academy." Many organizations have sprung up in the nature of State and local architectural societies, building congresses, and guilds, some of which, perhaps, divide interest with the Institute.

To be able to make a comprehensive report on these

matters, the committee must gather data and opinions from the whole membership, and asks most careful consideration of and response to the following questions on the part of every member, especially including the most diffident. It hopes to formulate from these replies the reflection of the attitude of the majority of the members.

1. What should be the attitude of architects to speculative building and speculative builders?
2. What should be the attitude of architects to so-called group practice, or, as it has been called, "hunting in packs"?
3. Is it right for architects to do business on the reputation of the dead or retired, especially when they lack the inspiration and touch of the vanished hand, and need restraint, as by the voice that is stilled; and what should be the attitude of architects to this business method?
4. Should architects practice on a strictly professional basis, or should they be unprofessional and yield to the embraces of the commercial elements of the building business?
5. Should the Institute base its membership requirements on notable achievement and so become a select society; or should it make character and reasonable competence its standards and become an organization having a majority voice in the profession and truly representative of it?
6. What should be the attitude of the Institute toward smaller and more local architectural and related and allied organizations?

Professor Albert C. Phelps, of Cornell, Will Again Lead a Group of Architectural Students to Europe

PROFESSOR ALBERT C. PHELPS, of the College of Architecture at Cornell University, will again, as in 1923, act as leader of a group of architectural students during a trip in Europe next summer, according to an announcement just issued by the Institute of International Education, 522 Fifth Avenue, New York, under whose auspices the trip is being arranged.

According to the preliminary announcement, the architectural course under Professor Phelps will be one of four overlapping courses which together will compose a general arts tour, the other three sections being designed primarily for students of painting, of landscape architecture, and of history, respectively. The architecture section, while not excluding objects of outstanding interest outside of the architectural field, will emphasize the study of important buildings and decorative compositions, the examination of drawings and models by the world's greatest designers, etc., and will give opportunity to photograph and sketch details of architecture and decoration.

In addition to Professor Phelps, the faculty of the arts tour will include Miss Edith R. Abbot, of the Metropolitan Museum of Art, New York, and Mr. John Clark Tidden, art instructor at Rice Institute, Texas. The lecturer in landscape architecture has not yet been announced. Professor Phelps will begin his course of instruction with a series of illustrated daily lectures during the eastbound transatlantic voyage, and will continue his instruction throughout the trip. The itinerary will include cities in Italy, France, Belgium, Holland, and England.

The Arts Tours is one of a series of International Students' Tours which three years ago were established as a non-commercial undertaking under the auspices of the Institute of International Education.

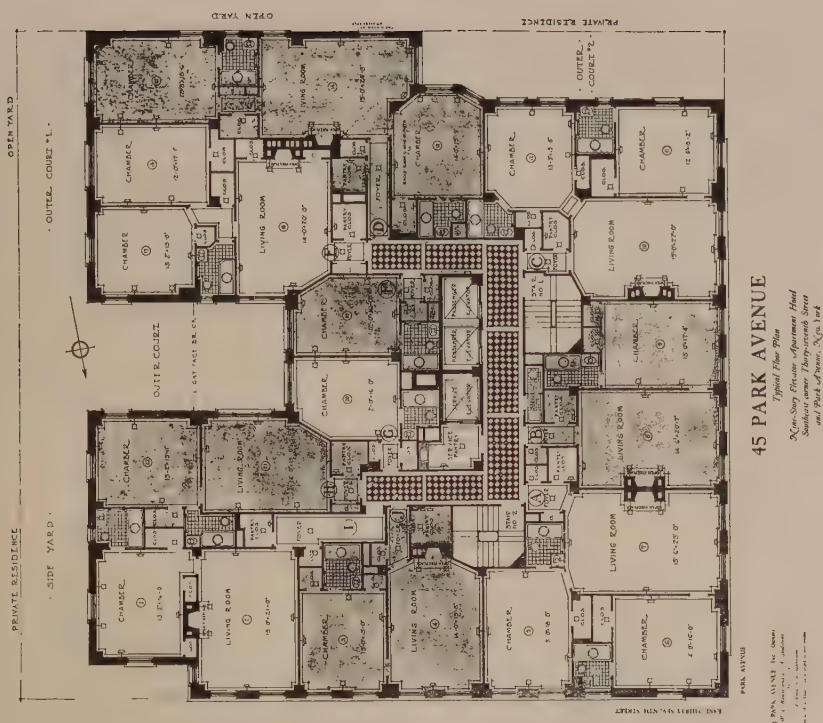


APARTMENT-HOUSE, 45 PARK AVENUE, NEW YORK.

W. L. Rouse and L. A. Goldstone, Architects.



DETAIL, APARTMENT-HOUSE, 45 PARK AVENUE, NEW YORK.



45 PARK AVENUE
Typical Floor Plan
New-Sixty Classic Apartment House
Southwest corner Thirtieth Street
and Park Avenue, New York

W. L. Rouse and L. A. Goldstone, Architects.



DINING-ROOM.



RECEPTION-HALL, FIRST FLOOR.

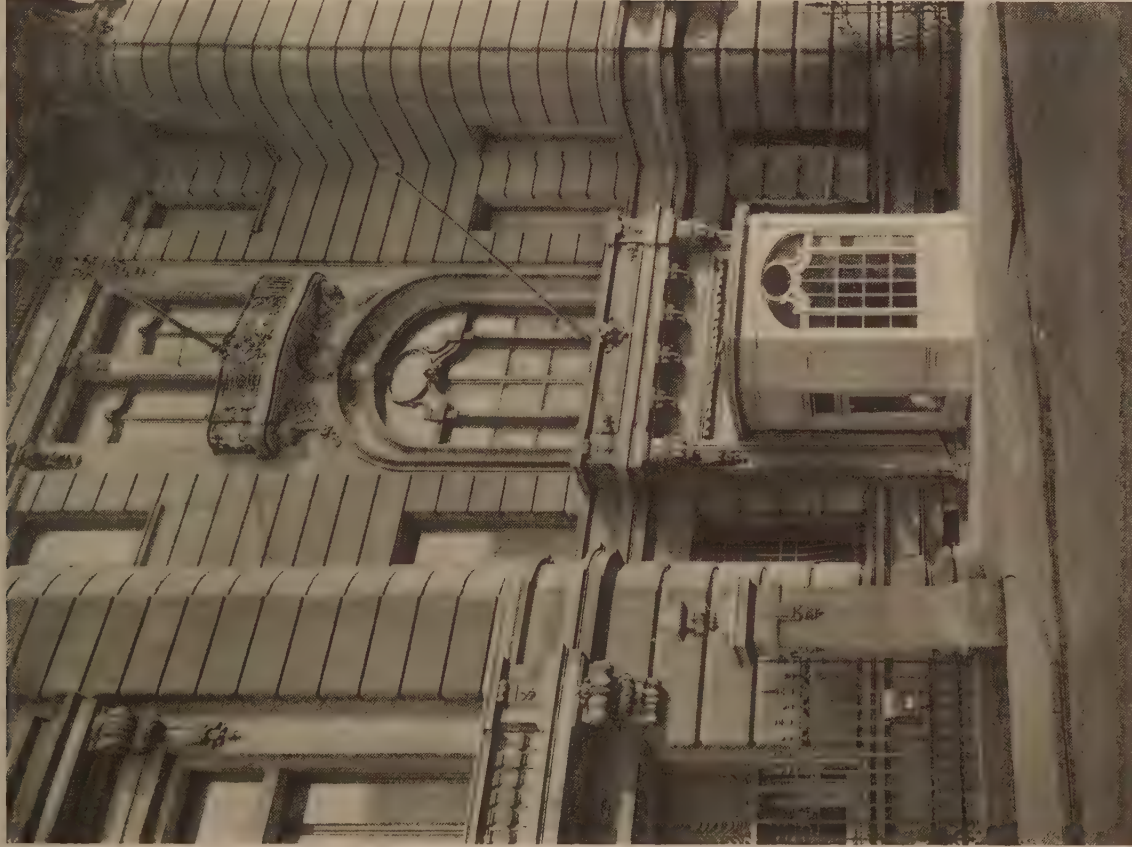
W. L. Rouse and L. A. Goldstone, Architects.

APARTMENT-HOUSE, 45 PARK AVENUE, NEW YORK.

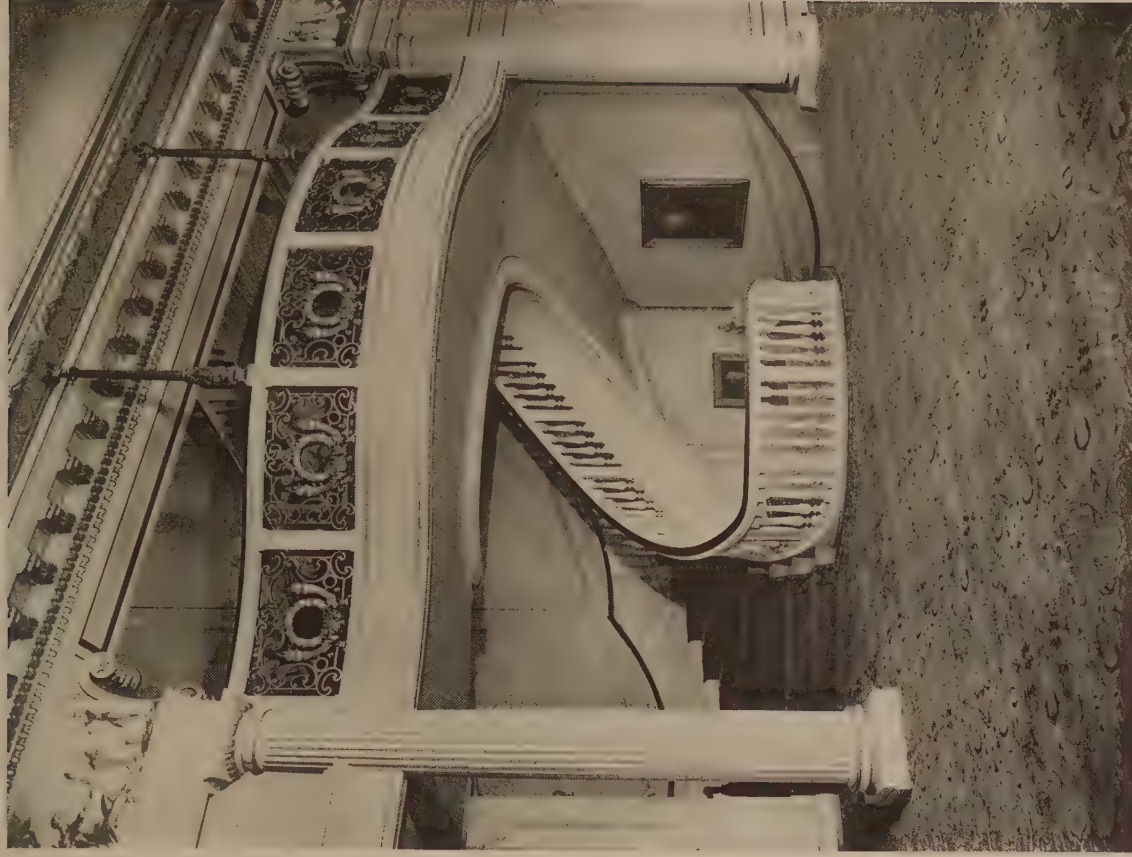
MARCH, 1924.

ARCHITECTURE

PLATE XXXVIII.



DETAIL, ENTRANCE.



STAIRCASE.

NATIONAL DEMOCRATIC CLUB-HOUSE, 233 MADISON AVENUE, NEW YORK.
C. P. H. Gilbert, Architect.



LIBRARY, NATIONAL DEMOCRATIC CLUB-HOUSE, 233 MADISON AVENUE, NEW YORK.

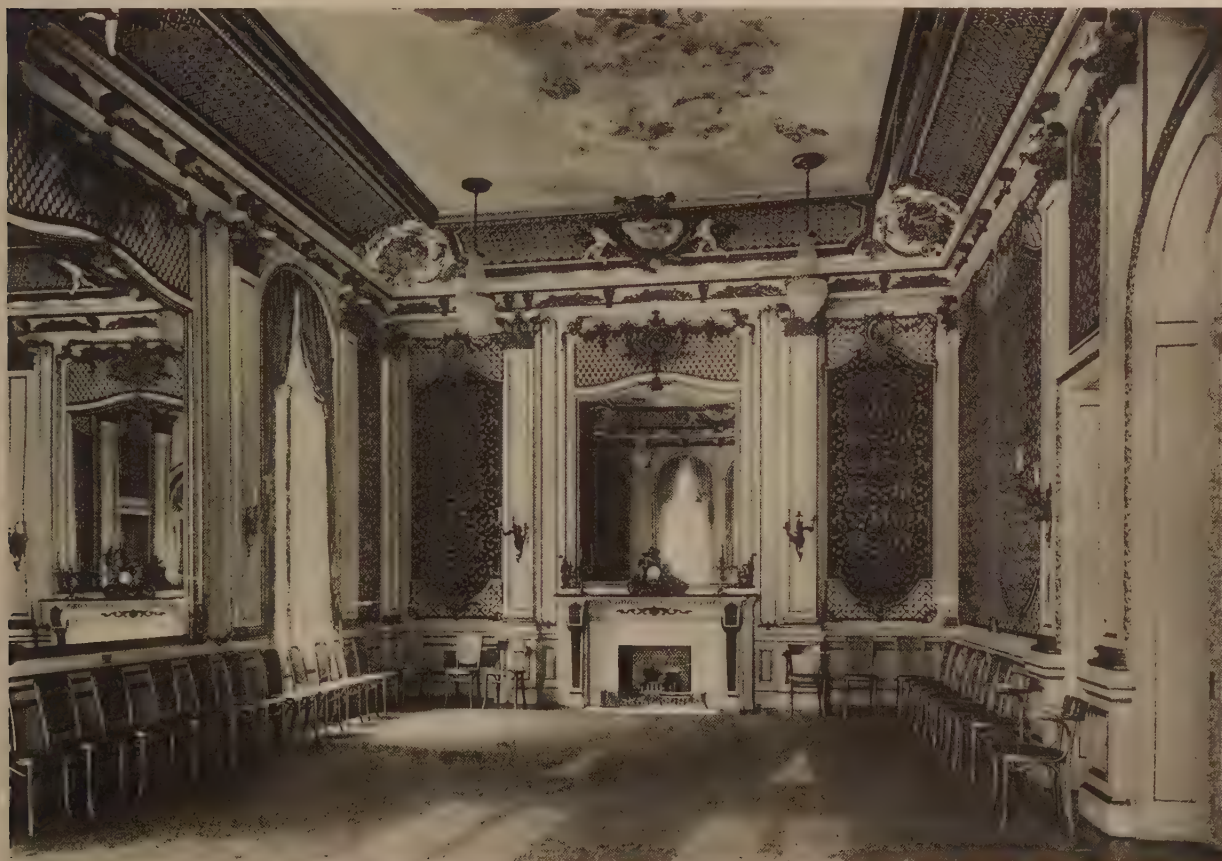
C. P. H. Gilbert, Architect.



OFFICE, NATIONAL DEMOCRATIC CLUB-HOUSE, 233 MADISON AVENUE, NEW YORK.
C. P. H. Gilbert, Architect.



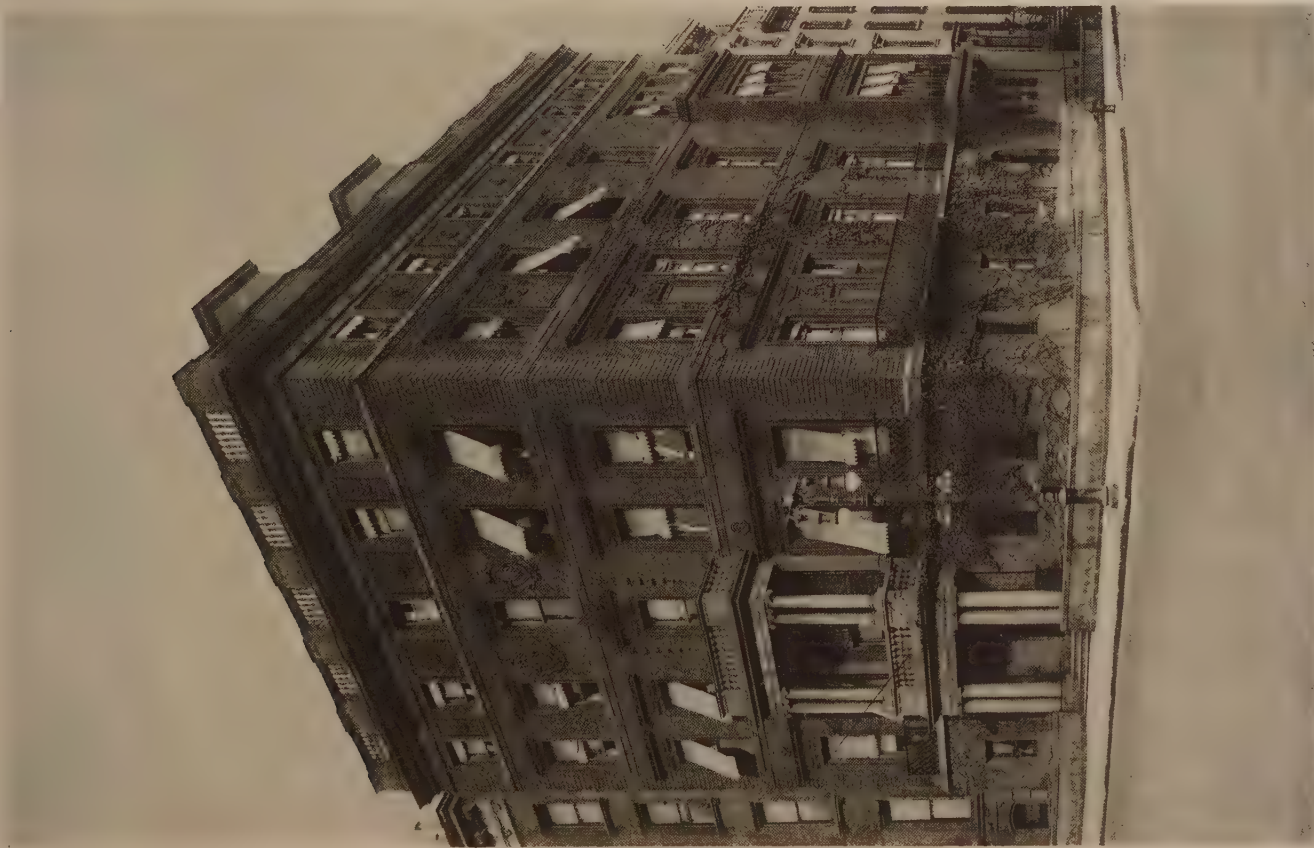
CLUB-ROOM.



BALLROOM.

C. P. H. Gilbert, Architect.

NATIONAL DEMOCRATIC CLUB-HOUSE, 233 MADISON AVENUE, NEW YORK.



THE CLUB-HOUSE.



STAIRCASE, SEVENTEENTH-CENTURY FRENCH.

ADVERTISING CLUB OF NEW YORK, PARK AVENUE, NEW YORK.

Originally built for J. Hampden Robb. McKim, Mead & White, Architects.



LOUNGE, ADVERTISING CLUB OF NEW YORK, PARK AVENUE, NEW YORK.

Mantel in Pollard oak. French leather and carved wood ceiling.

McKim, Mead & White, Architects.



The women's reception-room.



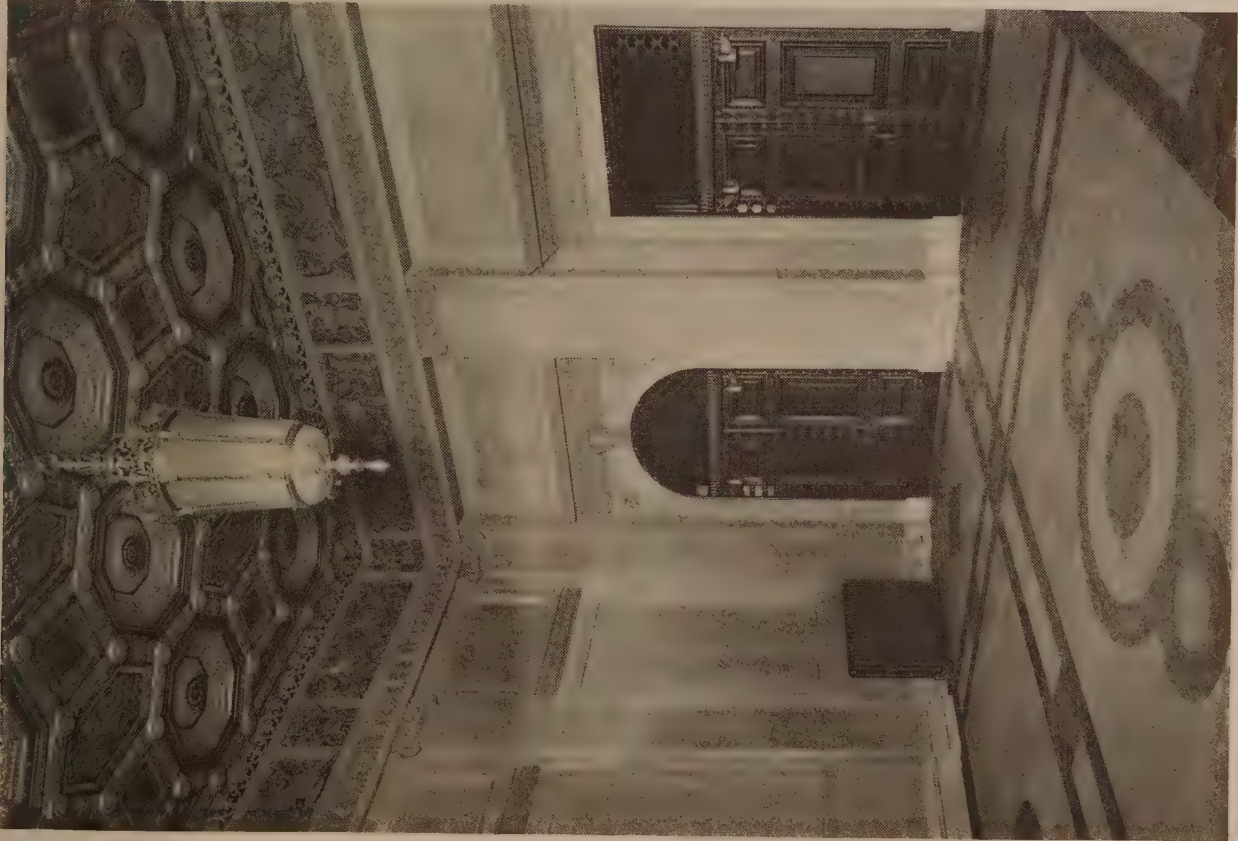
Fireplace in lounge.



Sixteenth-century mantel (1560), main lounge.



The mantel of pollard oak and the leather and carved-wood ceiling in one of the lounge rooms was brought from France by the original owner.

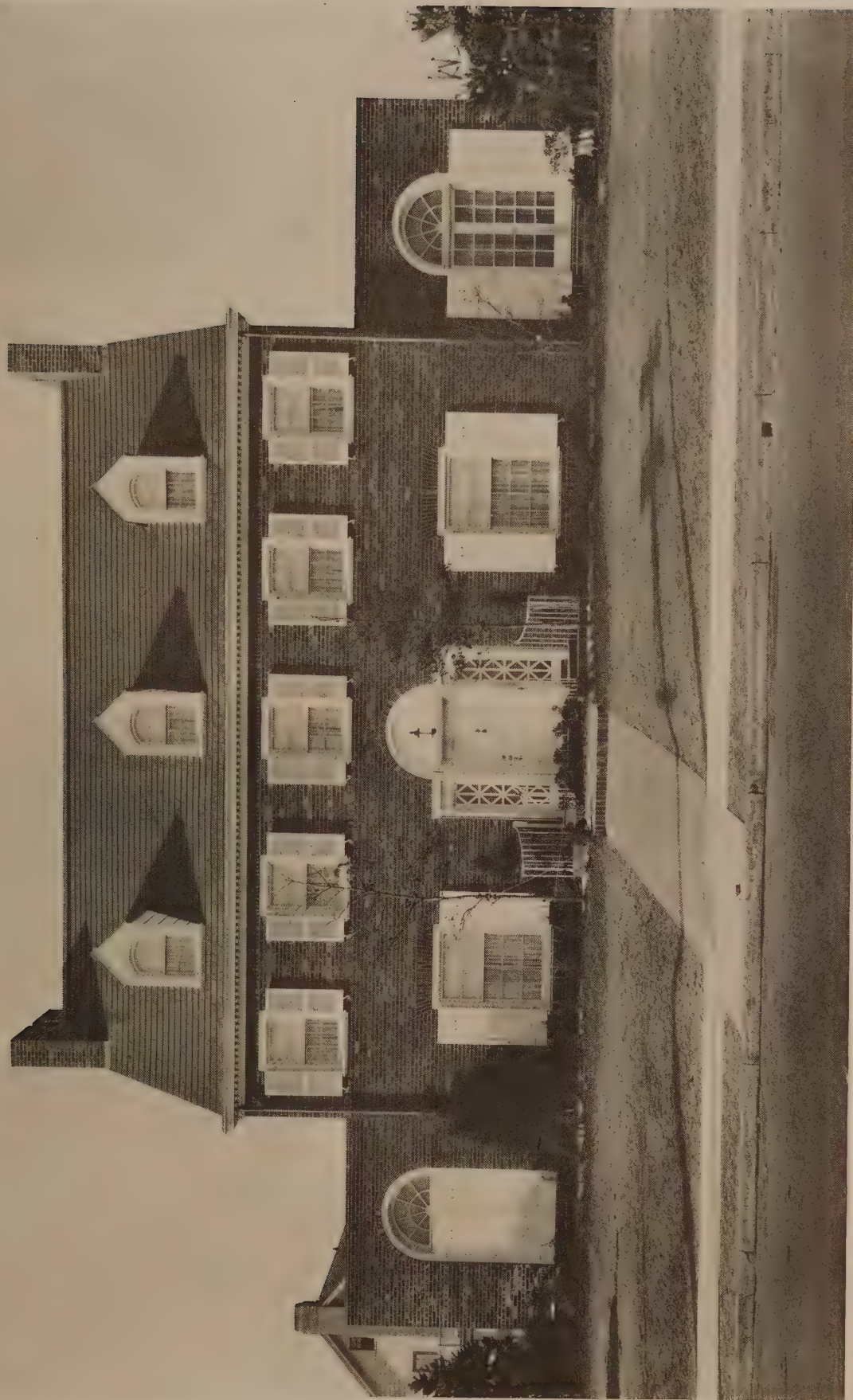


ELEVATOR LOBBY.



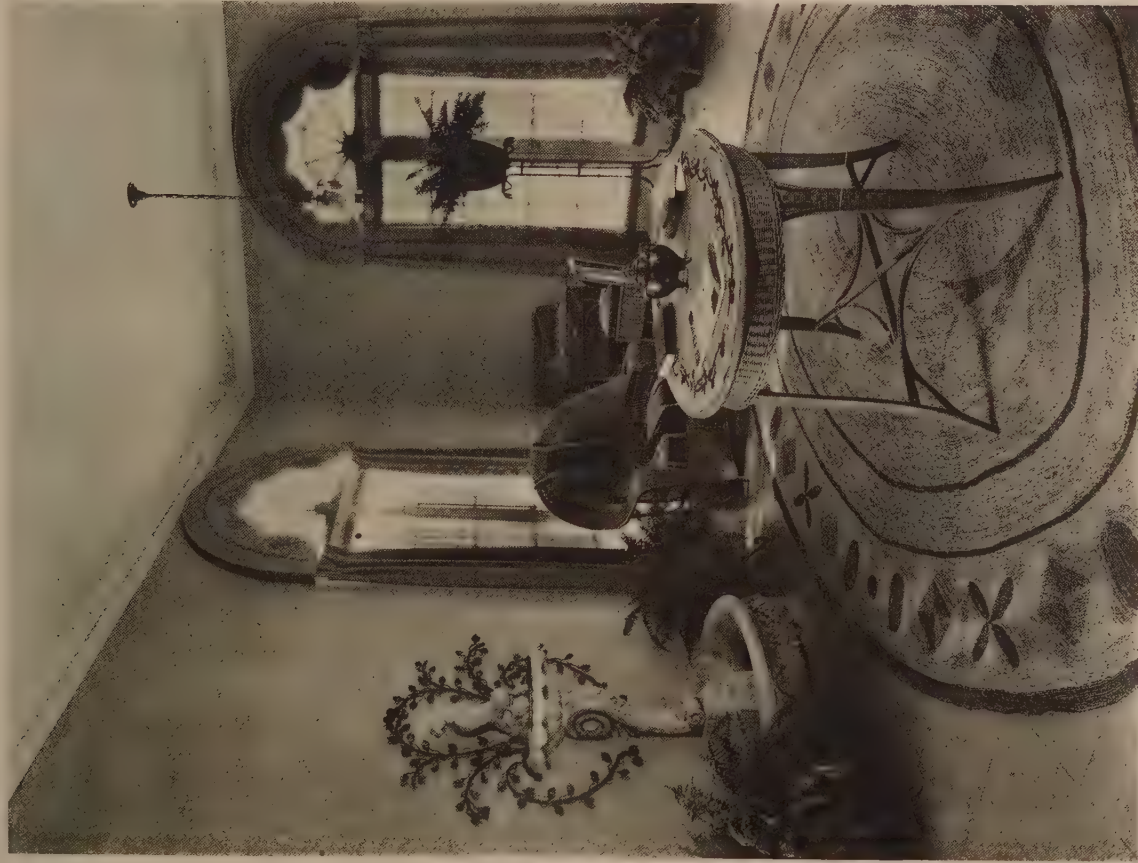
DETAIL OF CANDIDATES' ROOM.

THE ELKS' CLUB, PORTLAND, ORE.
Houghtaling & Dougan, Architects.



THE IDEAL HOME, NEWARK, N. J., BUILT FOR L. BAMBERGER & CO.

Francis A. Nelson, Architect.

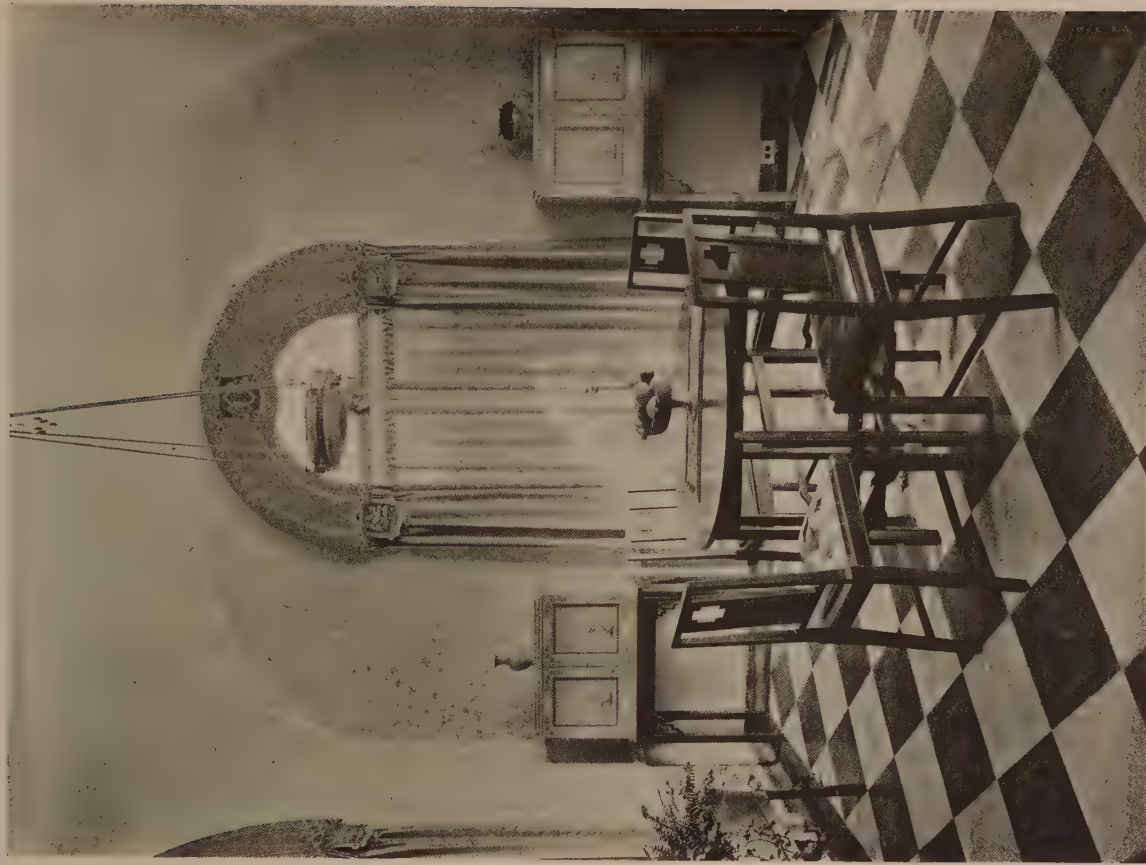


SOLARIUM.

THE IDEAL HOME, NEWARK, N. J., BUILT FOR L. BAMBERGER & CO.

BREAKFAST-ROOM.

Francis A. Nelson, Architect.





DINING ROOM.



LIVING-ROOM.

Francis A. Nelson, Architect.

THE IDEAL HOME, NEWARK, N. J., BUILT FOR L. BAMBERGER & CO.



FRONT ELEVATION

NOTE

PORCH WALL IS
FACED WITH
MATCHED SIDING

Scale $\frac{1}{8}''=1'-0''$

DOOR DETAIL
(STONE WING)

Scale $\frac{3}{8}''=1'-0''$



DOOR & WIN-
DOW MOLD

STONE WING

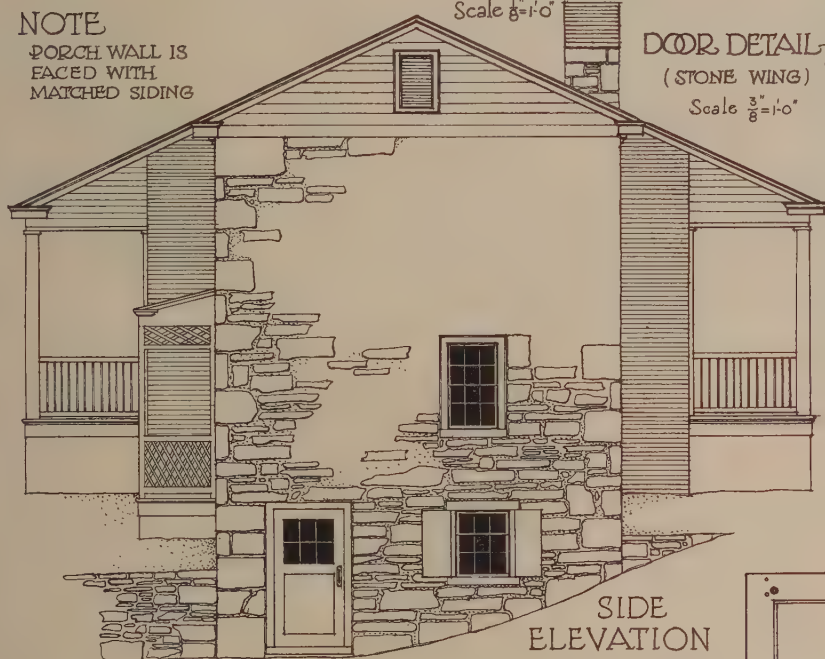
DOOR
MOLD
One-half Full-
size

One-half
Full size



DOOR
LATCH

Scale $\frac{1}{2}''=1'-0''$



SIDE
ELEVATION

Scale $\frac{1}{8}''=1'-0''$

WINDOW DETAIL

STONE WING

Scale $1\frac{1}{2}''=1'-0''$

CORNICE
(FRAME WING)

CORNICE
(STONE WING)

Scale $1\frac{1}{2}''=1'-0''$

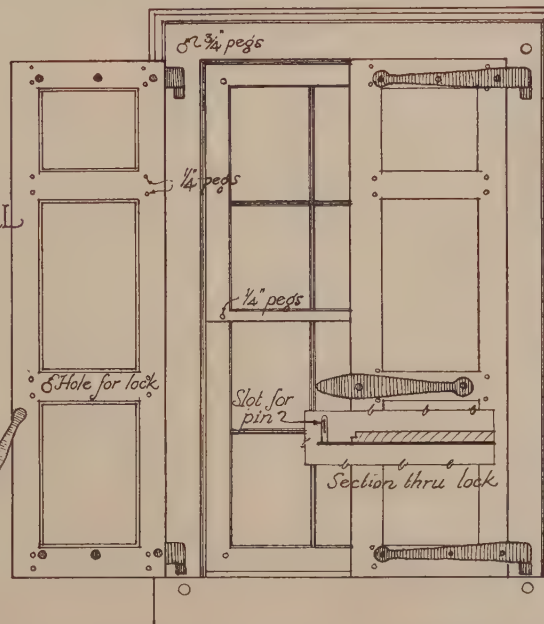
FOOT SCRAPER

Scale $1\frac{1}{2}''=1'-0''$

DOOR & WINDOW TRIM

FRAME WING

One half full size



An Old House at Crofton, Pa.



Detail sheet on page 79.

American Methods of Construction in Paris

By David B. Emerson

WHILE in Paris in August the writer was fortunate enough to have the opportunity to inspect the work of rebuilding the Grands Magazins du Printemps, which was practically destroyed by fire September 28, 1921, and was more than pleased to note the adoption of quite a number of American methods of construction in the work. This building, which was one of the large department stores in Paris, occupied the entire block bounded by the Boulevard Haussmann, the Rue Caumartin, the Rue de Provence, and the Rue Chartras, and was seven stories in height, with basement, sub-basement, and cellar below the sidewalk. The general dimensions of the building were about 289 feet on the Boulevard Haussmann and the Rue de Provence, about 115 feet on the Rue Caumartin, and about 148 feet on the Rue Chartras.

The building had been constructed in two sections; the first section, which covered about one-half of the block, was commenced about 1907, and the second section, which covered the remainder of the block, was commenced in 1913, but was not entirely completed at the time of the fire, due to the war, which practically paralyzed all building of that class in France. The architect of the first section was

Monsieur Binet, a distinguished French architect, quite well known to Americans for his work on the Exposition Universelle in 1900. The new portion, which was built after the death of Monsieur Binet, was designed by one of his students, Monsieur Jacques Wybo, who carried out the original design as far as was practicable. The building was designed on the same general plan as many of the earlier American department stores, with two large open spaces extending from the first floor to the roof and surmounted by steel and glass domes. The area of each of these open spaces was about 5,400 square feet.

The general scheme of construction was very similar to that used in the Grand Palais des Champs-Élysées, which, as will be remembered, was the making a decorative use of the structural material, so that practically all of the steel work was exposed. Steel and wrought iron were used extensively in the construction and decoration of the building, in addition to the strictly structural material. All windows were of steel, with large spandrels, built up of plates with applied mouldings and ornaments in steel. The staircases and balcony railings were of steel and wrought iron of a most elaborate character. The structural columns were of

two general types; one was a cruciform section built up of plates and angles, with flange plates on each arm of the cross, and the other was an H-section built up of angles and plates, using two web plates. The beams were mostly plate girders, with two web plates. All of this structural work was entirely unprotected, being either exposed or else covered with staff and mirrors.

As the reader will readily see, it was an absolutely non-inflammable structure, but absolutely non-fire-resisting, as was proven when the test came. The fire started in the basement of the new portion of the building at about seven o'clock in the morning, while the building was being cleaned preparatory to opening for the day's business. On account of the cleaning, the windows on all floors were open, which fact coupled with the absolutely inadequate fire protection in the building, and an insufficient water-supply in the street, rendered it impossible to do more than confine the fire to the building in which it started. The building was almost totally destroyed, the interior was practically gutted, the exterior walls were badly damaged, the floors fell in several parts of the building, and four of the eight columns which supported the dome over the new portion of the building failed through distortion, wrecking the dome, but it did not fall, as the four remaining columns withstood the heat and prevented its falling.

When the question of rebuilding was taken up, it was decided that the errors in the older construction would have to be remedied and a recurrence of the former disaster prevented if possible. Recognizing the great superiority of American methods of fire-resisting construction, it was decided to adopt these methods in the reconstruction of the building, following as far as was practicable the requirements of the National Board of Fire Underwriters. To accomplish this necessitated a number of very radical changes from the original plans, among which were the building of several new reinforced concrete staircases, surrounded with fireproof walls and provided with automatic fireproof doors at all entrances; the building of a fire-wall, equipped with double automatically operating rolling steel shutters between the two sections of the building; and the building of fireproof enclosures around the elevators, something which has been done but very little in Paris up to the present time.

The grand staircases, which were located in the large open space under the dome, and which were excellent pieces of ornamental iron work, suffered practically no material damage from the fire, so were allowed to remain in their original form.

Other measures which were adopted for rendering the construction more fire-resisting were the devising of a new floor system and the encasing of all structural steel work in concrete. The new floor system was quite unique and rather ingenious in its design. Most of the plate girders in the original building remained in good condition, despite the great heat to which they were subjected. Those girders which had failed were replaced.

Between the girders were riveted light steel I-beams 4.7 inches deep, spaced 28 inches on centres. On top of these beams was laid a reinforced-concrete slab 4 inches thick, haunched at the beam, and under the girders was hung a reinforced-concrete ceiling slab 2 inches thick. All columns were protected with 2 inches of concrete reinforced with vertical steel rods wired together. This concrete followed

the contour of the columns, thereby leaving large accessible pipe spaces, which were enclosed either with staff or with mirrors. Finished terrazzo floors were laid over all concrete floor slabs. These terrazzo floors with their underbeds were about 2½ inches thick.

The building was equipped throughout with a concealed automatic sprinkler system, with stand-pipes and hose-racks inside of the building, and Siamese connections on the sidewalk. All sprinkler pipes were run between the floor and ceiling slabs, previously described. A water curtain was located at each door leading to the new fireproof stairways. The pressure tank for the sprinkler system was located on the roof of another building belonging to the store, and located on the opposite side of the Rue de Provence, the pipes being carried under the street into the basement of the building. The sprinkler system, although designed after American standards, is of English manufacture, the Newton system, as it is called. As a further precaution an automatic fire-alarm system has been installed, and the city has been requested to install a high-pressure water-main in the street.

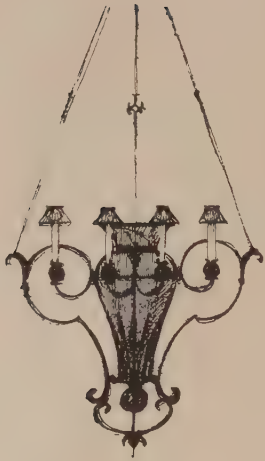
Another innovation which has been introduced is that all electric wiring is run in a rigid iron conduit, something which a great many Americans will probably be surprised to learn has been done but very little in France up to the present time. This conduit is laid in the setting bed of the terrazzo floors, on top of the concrete floor slabs. A vacuum cleaning system is being installed in the building, also a pneumatic tube cash-carrying system, with two central stations. In connection with the cash-carrying system, it might interest the reader to know that there will be over nine miles of brass tubing in the system when it is completed.

The building is to have eighteen passenger elevators of the Otis micro-drive traction type, manufactured by the Ateliers Otis-Pifre, Paris, and an Otis escalator to run from the first, or selling, basement to the sixth floor. This escalator is quite an interesting feature in the construction, as it was designed and all the working drawings were made by the Otis Elevator Company in Yonkers, N. Y., and constructed in the Otis-Pifre Works, just outside of Paris.

Another item in the equipment is a spiral package-chute running from the sixth story to the basement, with a conveyor system in the basement. The steam for heating the building is taken from the heating-plant located in the building on the opposite side of the Rue de Provence, the pipes being carried under the street, as are the pipes for the sprinkler system. All electric current for lighting and power is taken from the city service, so that neither boilers nor engines are located within the building.

The architect for the rebuilding was Monsieur Wybo, who designed the newer portion of the original building, assisted by Monsieur Bidet. The engineers who had charge of the structural work, fireproofing, mechanical, and electrical work were Monsieur Burty, the chief engineer, who is privately employed by du Printemps, and Monsieur Michaut.

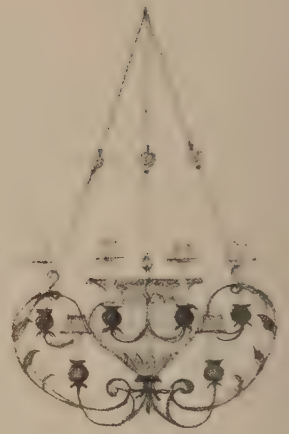
After seeing the work in progress and talking with the engineer in charge, the writer could not but feel a just pride in the achievements of his fellow-countrymen in the field of modern building construction and recognize the compliment paid to American methods when French architects and engineers, with all their skill and erudition, adopt them.



Entrance-hall fixture.



Lighting fixture.



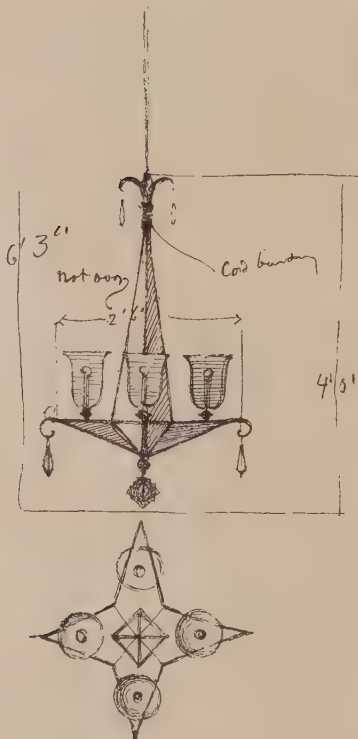
Reception-room fixture.

(Continued from page 76)

brings them well within reasonable cost of production and rather enhances than diminishes their dignity.

There has undoubtedly been a great improvement within the last few years in the designs for lighting fixtures offered commercially, but there is still a tendency to flamboyant and needless ornamentation with an unbridled use of gold or silver finish often aggravated by an unintelligent addition of lustre ornaments and colors. Thus it is of primary

importance to the architect who would produce fine work not only to design his fixtures well but supervise the manufacture and finish in detail, just as has been done in the instance of the genuinely good fixtures shown. There is no detail of interior fittings which offers so much real satisfaction for the somewhat exacting attention required, and no greater opportunity for the modern designer to be original in the best sense of this much-abused word.



Study.



Selling Paris



Study for library fixture.

The Elks' Club, Portland, Oregon

Houghtaling & Dougan, Architects

By Naomi Swett

ADHERING to the style of the Italian Renaissance mainly, from its pinkish-gray terra-cotta exterior throughout almost the entire interior, there are but four instances where departure from the style may be noted; these are the women's room, the billiard-room, the buffet, and the card-room.

Facing Eleventh Street with a frontage of 150 feet and Alder Street with a 100-foot front, the entire building is used exclusively by the club, with the exception of the greater part of the first floor, which consists of shops with an average height of 25 feet from the first to the second floor, all provided with balconies.

The main entrance of the building faces Eleventh Street at the extreme right end, where three double doors of bronze lead in from the 40-by-60 loggia. The main lobby, which has been built with a good clearance from elevator passage, has ornamental plaster ceiling, Caenstone walls, and marble floor that also extend the entire length of the elevator lobby, where the ceiling changes to the vaulted type.

A smaller emergency entrance at the extreme right on Alder Street leads to the closed stairway and fire-escape at the rear.

The basement houses a swimming-pool, gymnasium, handball-court, barber-shop, heating-room, bakery, refrigerating-room, and storeroom. As auxiliaries to the swimming-room are showers, steam-room, rubbing-room, and lockers. The swimming-pool, which is 25 feet wide and 60 feet in length, including the scum gutters, is of glazed vitreous ceramic tile. There are 50 private showers and bath-rooms and white glazed-tile floors, walls, and ceilings. In the lavatories are 8-foot wainscotings, also of white glazed tile. All flooring in the basement rooms is of 3-inch white octagon tiling, of which there are, all told, 2,814 square feet.

The library, card-room, billiard-hall, buffet, women's room, and offices, which are on the second floor, show the greatest versatility of expression, and in four of these rooms the architects have deviated from the strict Renaissance character of the building.

Here the elevator lobby is 18 feet in height, with vaulted ceiling, the floor of Ohio flint tile.

Direct from the left end of the lobby leads the main office, containing 700 square feet in its area, a vault of 90 square feet, and trustees' and secretary's offices, each covering 140 square feet.

The women's room, to the left of the main office, in Adam style, has adjoining toilet and telephone-booth, where the interiors are of white tiling. A cloak-room closes the blind end of the hall at this point.

In the 33-by-68 billiard-room, leading from the extreme right end of the elevator lobby, the expression has been freely modern. A door to the right connects with the buffet of 575-square-foot floor surface. The deep Romanesque vaulted ceiling and wide-arched buffet, together with the flooring of hand-cut mosaic tile, have the character of the mediæval wine-cellar, to which atmosphere has been added by the grille at the windows directly back of the arch.

The check-room is directly to the left of the buffet, between the elevator and the main toilet.

The library, of 40 by 40 feet, the 15-by-20 writing-room, and the card-room border the entire length of the elevator lobby to the left. In the library the ceiling is of ornamental plaster ceiling, the walls of gumwood with marble base, and the floors carpeted, and with the exception of the floor, which is of cork tile, the same idea prevails in the writing-room.

In the card-room the Renaissance treatment is diverted once more, this time to an adaptation of the Chinese style. The plastered walls are copper-red, and the woodwork is of teak-finish gumwood, and above the frieze is an overhang cornice. The floor is of red hand-made tile, 4 by 4; at every fifth tile is an insert of a character from a deck of cards.

Several kinds of marble are used in the 16-by-32 elevator lobby on the third floor, which has a painted vaulted ceiling decorated in Pompeian style. The left end of the lobby leads directly to the 26-by-84 banquet-hall and a large check-room. The 23-foot ceiling of the banquet-hall has lunettes formed by the extending windows. From the floor of black-and-white diamond-shaped tile a 5-foot-6-inch marble dado reaches the height of the window-stools, and the pilasters also are of sienna marble.

Between the banquet-hall and the kitchen is a serving-room with an area of 359 square feet. The kitchen and pantry, both with 8-foot walls of white glaze tile and 6-inch red quarry floor, have been located adjacent to the ballroom, as well as to the banquet-hall, so that with the occasion of larger banquets the ballroom might be converted to an emergency banquet-hall.

From the right end of the elevator lobby lead a large check-room and ballroom, with ornamental plaster ceiling that has an area of 6,250 square feet. The stage is 45 feet wide and is equipped with a complete motion-picture outfit.

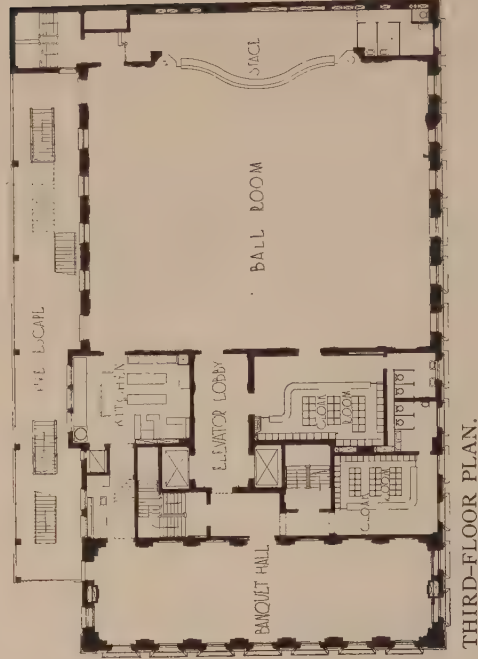
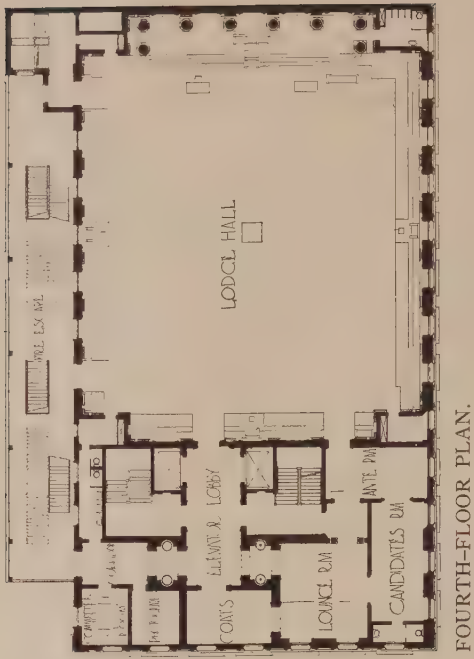
On the fourth floor the lodge-hall, with an area of 82 feet by 84 feet 6 inches, inclusive of dressing-room and other extra rooms, is 30 feet high in the clear and is supported by girders with a spread of 84 feet. The 72-foot stage is elevated 20 inches above the floor. Of the four exits from the ballroom, one leads direct to the 18-foot fire-escape at the rear of the building and one to the enclosed emergency stairway.

Over the lounge-hall, candidates' room, coat-room, photograph-filing-room, committee-room, etc., is a mezzanine floor occupied by twelve bedrooms with private baths. The entire fifth floor contains bedrooms with private baths for men.

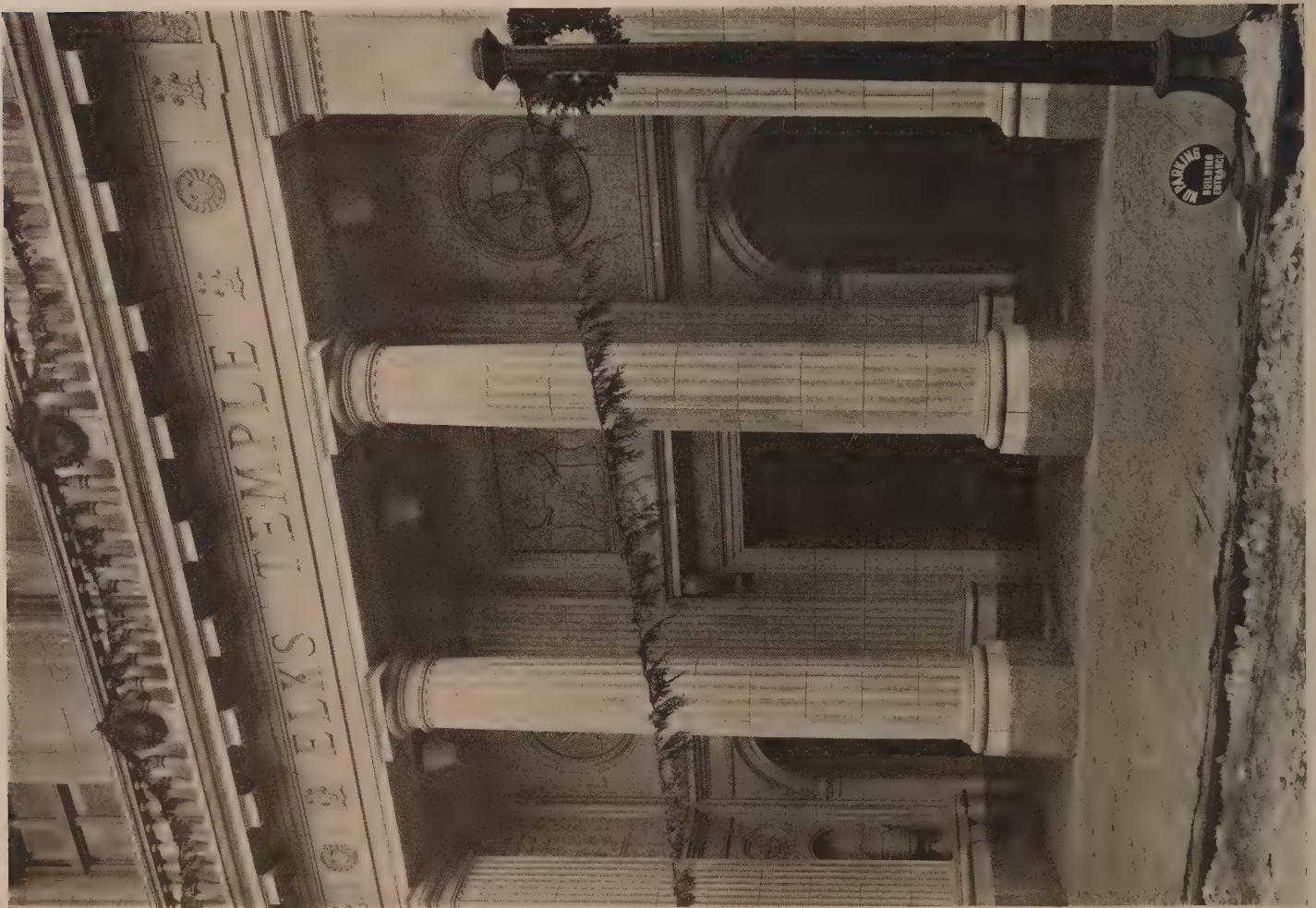
One of the outstanding features of this new temple is the amount of marble and tile work. The main stairways throughout the entire structure from the basement up have marble treads, risers, and wainscots, with ceramic tile on all landings. Altogether 35,671 square feet of tile have been used.

Seventeen hundred tons of structural steel were required for the framework, which in its total cost of \$1,095,000 (including architect's commission) averaged 55 cents per cubic foot.

A monthly revenue of \$2,800 from the bedrooms and \$2,000 from the shops is devoted to maintenance.



Houghtaling & Dougan, Architects.



ENTRANCE DETAIL.



BALLROOM.



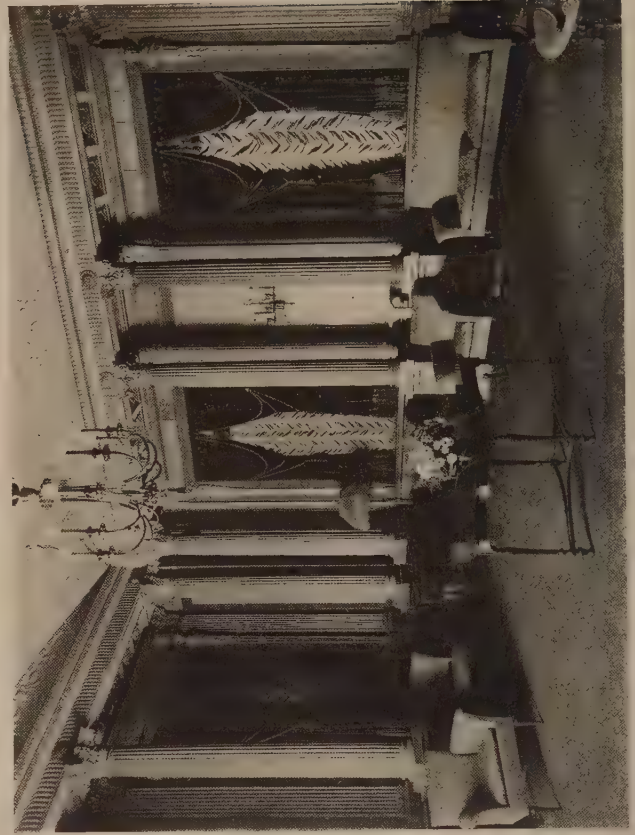
LODGE HALL.

ELKS' CLUB, PORTLAND, ORE.

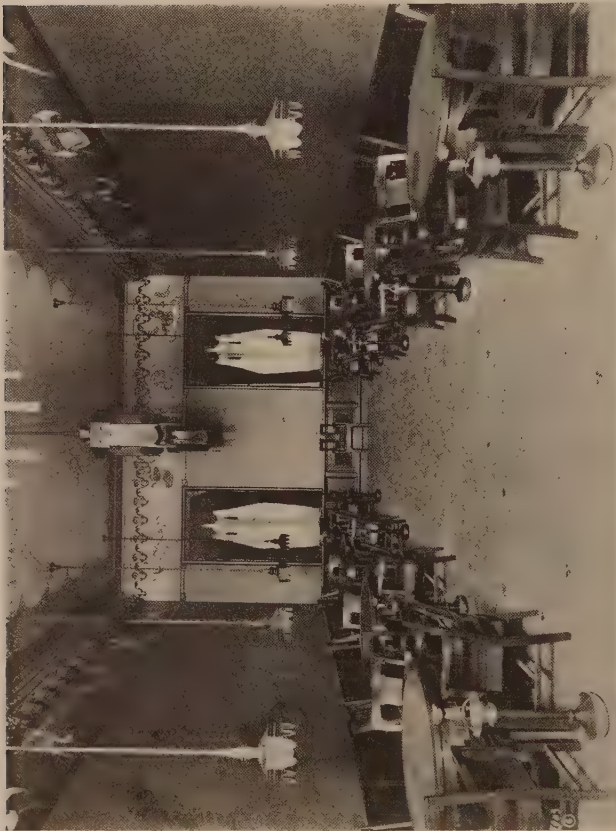
Houghtaling & Dougan, Architects.



LIBRARY.

WOMEN'S ROOM.
THE ELKS' CLUB, PORTLAND, ORE.

Houghtaling & Dougan, Architects.



CARD-ROOM.



BANQUET-HALL.



Rear and garden.

Another Ideal Home

THE L. Bamberger & Co. ideal home has been recently opened for inspection in Newark, N. J. It was constructed from plans drawn by Francis A. Nelson, architect.

The model-home idea has proven very popular in other cities, and this being the first of its kind to be erected in Newark it is creating a great deal of interest and incidentally stimulating a desire on the part of home-builders and home-owners for better equipment and more modern electrical contrivances. In reality, the home is an electrical house in the strictest sense.

The building is a two-and-a-half-story tapestry-brick affair of Southern colonial architecture. There are a living-room, dining-room, solarium, breakfast-room, kitchen, and washroom, and toilet on the first floor. The second floor contains two master bedrooms, with connecting bath, and two guest-rooms with bath. The third floor contains two servant's rooms and bath and large cedar-lined storage-room.

Novel features include many electrical accessories, such as hot-water heaters for the baths, burglar-alarms, burglar lights in the eaves, electric range, washing-machine, mangle, clothes-dryer, interhouse telephone system, and call bells.

Several base-plugs are installed in each room and there is a complete modern radio set.

There is a two-car garage in the rear, complete with heating-plant, electrical lathes, and work-bench.

The cellar contains a complete electrical laundry and other labor-saving devices.

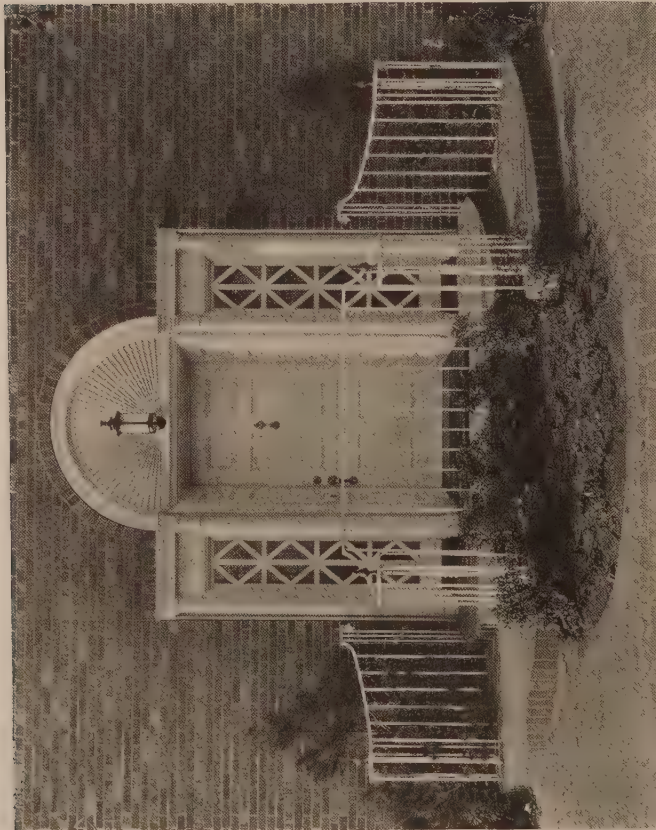
From the beginning the idea was so to construct this building and furnish it as to make it what the name implies—*Ideal*.

Not "ideal" from a showy standpoint, nor from that of luxurious extravagance, for that would be missing the true point of the whole project; but "ideal" from the standpoint of its use as a home—artistic, beautiful, comfortable, cosy, intimate.

Each detail of its construction is as perfect as modern science and invention can make it.

It presents an exterior of attractive proportions, in line, in color, from the sun-flooded breakfast-room on the north to the flower-decked solarium on the south.

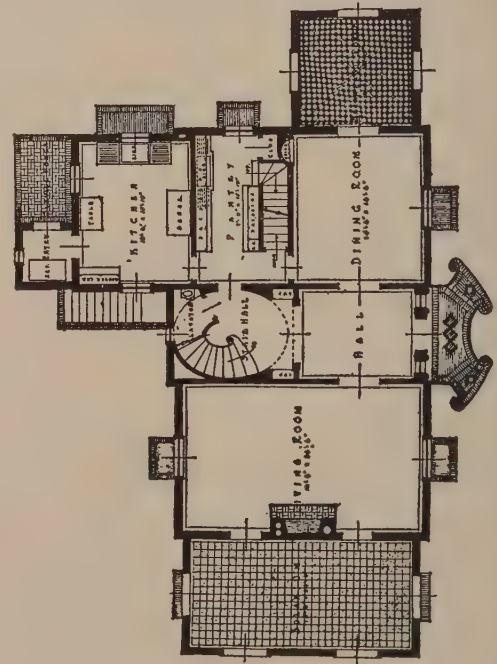
Within the spacious rooms are finished with good taste. Every possible kind of an electric fixture or device to aid in the up-keep of the home has a place here, and the heating-plant is of the most modern type.



DETAIL OF PORCH.

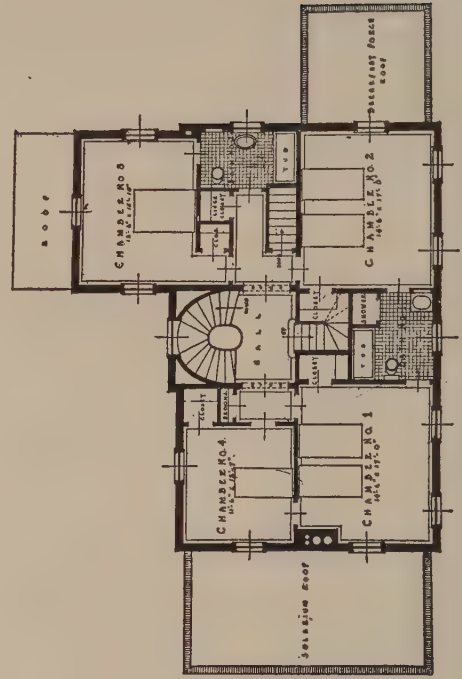


MAIN HALL AND STAIRCASE.



FIRST FLOOR PLAN

IDEAL HOME BUILT FOR L. BAMBERGER & CO., NEWARK, N. J.



SECOND FLOOR PLAN

Francis A. Nelson, Architect.

Construction of the Apartment-House

By *H. Vandervoort Walsh*

Instructor of Construction, School of Architecture, Columbia University

ARTICLE XIV

STEEL PROTECTION AND FOUNDATIONS AND ENCLOSING MASONRY WALLS

Steel Protection

WHEN the various columns, girders, and beams are delivered to the building and set up in place, they are red in color, due to the coat of paint which they received before leaving the fabricating shop. This priming coat may be merely a linseed-oil paint with a pigment of red lead or iron oxide, or a special, patented paint of superior quality, using China wood-oil as a base or special cement base. Generally speaking, though, the debatable subject of the rusting of steel imbedded in cement mortar and masonry is not taken very seriously by the builders of apartments, and no strict supervision of the painting is made.

This shop coat is enough to protect the steel while it is being erected, but as soon as it is in place a second coat of paint is applied to cover up all the exposed parts of the steel where the paint has been chipped or scratched off in the setting, shipping, or cutting process. This second coat helps to keep the steel from rusting from exposure to the weather during the time that the masonry walls are being built up and around it. To insure a complete covering of all surfaces, this second coat is black, so that the inspector can immediately notice any parts of the steel left unpainted by the red color of the first coat showing through, in contrast to the black second coat.

The painting of the steel for protection is considered by some engineers as secondary to the protection afforded by the fireproof concrete covering. These engineers believe that a steel beam or girder, thoroughly incased in concrete, is safe against the action of corrosion, even though the paint is defective. One will see, in apartment construction, the mason carefully swabbing over the steel columns a thin layer of Portland cement mortar before he builds up the masonry of brick or hollow tile around it. It is believed that such a coating is more effective than the paint, and it is a very common practice.

On the other hand, we have certain paint specialists who claim that this is not a sure protection for the steel. They say that in a driving rain-storm the water will penetrate through the masonry covering, carrying with it salts from the cement in sufficient quantities to dissolve the linseed-oil of the paint on the steel. When this oil is gone, they argue, the paint is no longer a protection, and a very thin space is left between cement mortar and steel in which corrosion can proceed.

Both parties to this discussion can drag forth authentic examples to prove their point. However, as far as apartment-house construction is concerned, we have noticed that common practice leans toward the first theory, and all steel work is carefully covered with cement mortar before the masonry is built around it.

Now the base of all steel columns, in fireproof apartments of normal size, is generally spread out on steel I-beam grillage footings, such as were described in the article on steelwork. This steel grillage rests upon a concrete base

and is protected by a concrete covering. Concrete is worked in between the flanges of the I-beams of the grillage and is poured around the outside of them so that all parts are covered with at least six inches of it. Many engineers claim that these grillage beams should not be painted, in order that the concrete may afford a sure protection against corrosion, but we have never seen any built, in apartments, which did not have at least a priming coat of paint on them before the concrete was poured. Usually some integral water-proofing compound is mixed with the concrete, and this affords greater protection to the steel, if it has been done under careful supervision.

On top of these concrete-covered footings the masons lay up, in the basement, fireproof coverings around the steel columns of brick and cement mortar. The common thickness of this covering is about $4\frac{1}{2}$ inches, the width of a brick and a mortar joint. Above the first floor the interior columns are covered with cement mortar and 2-inch-thick, hollow clay tile; but the exterior columns are covered with cement mortar and brick all the way to the roof. The hollow tile ought to be bound around with wire to hold it in place should it be subjected to a fire and then a hose stream, but this is not usually done. A defective method of fire-proofing the exterior columns has often been observed, namely: stones of granite or limestone have been built across the outside face of the columns without any backing, and in a serious fire these stones might shatter and the steel columns be exposed on this side. We have also observed large apartments of the so-called fireproof type being erected within city limits and under the limitations of the building code which have practically violated all the principles of column protection. The interior faces of the columns in these buildings were protected only by a covering of wire lath and cement plaster, an inch thick. The same covering was used around interior columns and over the soffits of those beams and girders which had been defectively covered with concrete when the floor slabs were poured. There is only one explanation of construction of this kind—cheap and shoddy.

Now, although the steel frame carries the outside masonry wall in most apartments, it does not begin to do this until the second floor is reached. Therefore the masonry walls enclosing the first floor are usually supported upon the cellar walls, there being no wall girders at the first-floor level. These cellar walls are usually constructed of 20-inch-thick rubble-stone or poured concrete, and finished off about two courses of brick below the grade line of the sidewalk. When the walls are of concrete they are poured around the steel columns in line with them, affording ample fireproof protection. Usually, too, some integral water-proofing is added to the concrete. However, when the foundation wall is built of rubble-stone, those sections around the steel columns are laid up with common brick, in order to assure good fireproof covering, the stone not being considered safe in this respect.

Masonry Work in Basement

There is quite a bit of special masonry work to be done in the basements of these apartments. The boiler-room must be excavated deeper than the rest of the cellar, about 16 or more feet head room being needed, even though the head room in the rest of the cellar may be only 9 or 10 feet. Very often the boiler-room is built under the pavement of the rear or side court, and not under the building itself. The outside walls of this part of the building are constructed in the same way as the others, but the dividing partitions between the boiler-room and the cellar are built of brick, usually 12 inches thick. When the boiler-room is actually under the building, the ceiling is furred down with metal furring, and about 2 inches of asbestos plaster or board is applied, in order to insulate this part of the building from the floor directly above it. Thus this heat centre of the building is cut off from the rest of the apartment by extra-thick fire-proof walls and floors.

In the boiler-room, foundations are built for two or three large boilers, according to the mechanical requirements of the building. These foundations are of brick and concrete. A large platform of concrete is laid down, big enough for all boilers, consisting of a 20-inch-thick slab of concrete. Directly under the place for the boilers, brick supports and sides for the ash-pits are laid on the concrete base. The insides of the ash-pits are lined with fire-brick. The floor in front of the boilers is covered with paving-brick, and the remaining parts of the floor have ordinary cement finish. As the average boiler is about 5 by 15 feet in size, the foundations are quite large, but their actual dimensions depend upon the make and type of boiler selected.

Generally the base of the chimney is near the boiler-room, although it sometimes is not, and flues have to be carried under the floor from the boiler-room to the chimney. In this case, the horizontal run of flue is lined with 4 inches of fire-brick and covered over with a double thick rowlock arch and incased in 8 or 12 inches of common brick. The common size of these tunnels is 3 feet by 3 feet. A cast-iron clean-out door must be located somewhere along its middle section, so that the accumulation of soot can be removed. The chimney proper, or vertical flue, is lined with fire-brick at the lower section of 25 feet, and has walls of 12-inch thickness. The upper part is merely lined with common brick and faced with the brick used in the courtyard walls. The wall thickness is 8 inches. Unlike the masonry walls, it is not customary to support the chimney on the steel frame at each floor, but it is carried up from the foundations as a continuous shaft. A cast-iron clean-out door is usually placed at the bottom, and the customary interior dimensions of the chimney are 2 feet by 2½ feet, with the clean-out door only about 18 inches square.

In some very tall hotel apartments steel flues are built into a masonry shaft having brick walls 8 inches thick. These steel flues are made of ¼-inch-thick tank steel, riveted by ½-inch rivets, and come in sections of 6-foot lengths. They are supported at every floor with bands 1½ inches by ¼ inch. At the bottom of the flue a special connection is provided for the breeching and a clean-out door, about 2 by 2½ feet, is fitted into a frame built of bar iron.

Similar to chimneys, incinerators need special flue construction. Eighteen-inch-diameter terra-cotta flues, usually round and incased in a covering of brick of 4 inches in thickness at the thinnest point, are carried from basement to and above the roof. Each stack serves the kitchens, which occur above each other on the various floors. Cast-iron doors with special double-closing action are built in at the

kitchen levels. These doors, or hoppers, are supposed to have an interior door that closes when the exterior one is opened to throw refuse into the opening.

Another feature of the cellar is the coal-room, which is surrounded by a partition of 12-inch-thick brickwork, and has a steel door opening into it, through which the coal is passed to the boiler-room. The floor of the coal-room is sloped from all sides toward the door. A coal-chute of 2-foot diameter, clay-tile, is stalled from 3 feet back of the curb into the coal-room, 2 feet above the highest level of the floor.

A special areaway, about 4 by 5 feet, is also needed, in which an ash-lift can be installed to carry the ashes from the boiler level, either up to the street, or more often up to the level of the courtyard. Tunnels have to be provided, too, for the plumber's pipes and the heating mains. These are best covered over with sheet-steel plates, that are screwed down to metal frames, and can be removed when any pipes need repair.

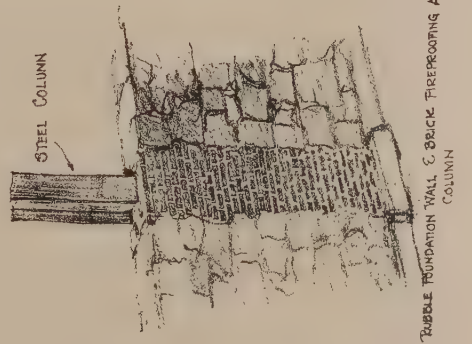
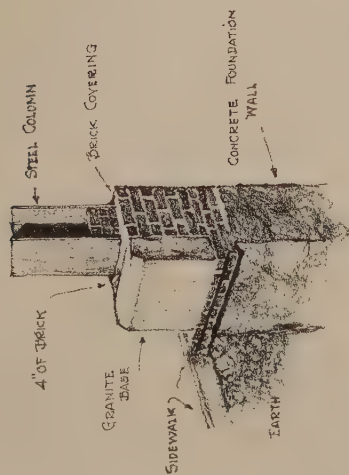
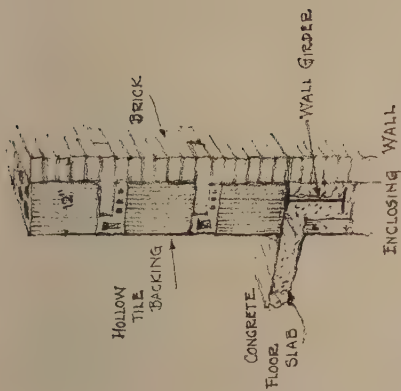
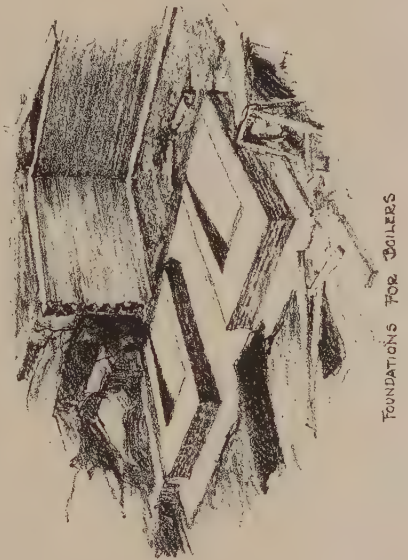
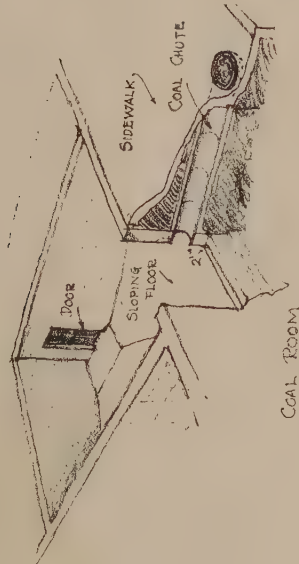
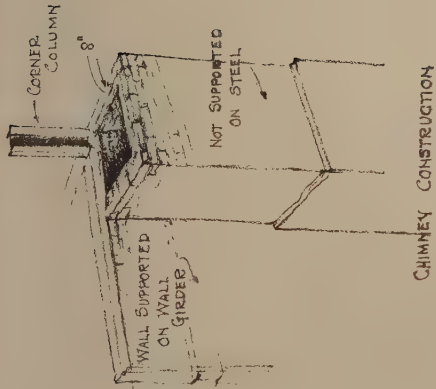
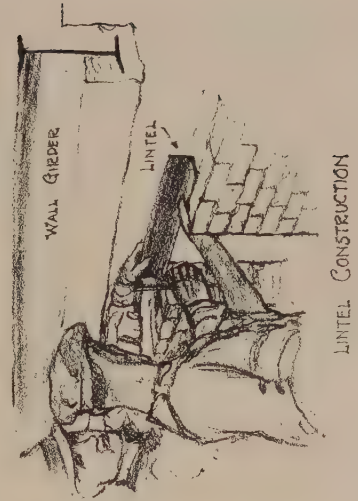
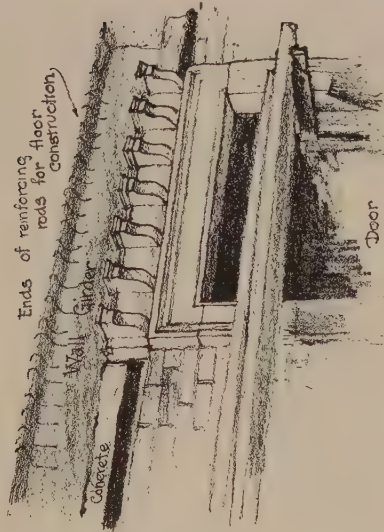
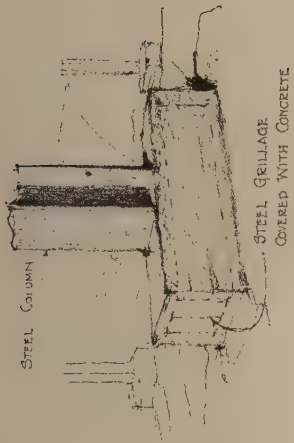
Partitions of 4-inch-thick hollow tiles are necessary around the bottom of elevator-shafts, motor-rooms, storage-rooms, shops, pump-room, and janitor's quarters. Sometimes these partitions are built of pressed yellow bricks, and made 8 inches thick, rather than hollow tile, which at the best can only be plastered on the outside, a finish not very durable for the rough work carried on in the cellar. The partitions separating the rooms in the janitor's apartment are usually the same as those used in the rest of the building.

When laundries are installed in the cellar of the best apartments, they are divided into small laundries with wire-screen partitions between them. These open partitions permit the circulation of air and incidentally servant gossip, and at the same time give private control over the individual tubs and ironing-boards. However, the great majority of apartments leave one big space for the general laundry, in which there is a battery of tubs, ironing-boards, and driers.

As was previously stated, often the cellar extends beneath the court area. This arrangement demands the construction of steel beams and reinforced-concrete slabs to roof over the cellar, and at the same time serve as the pavement of the court. The upper surface of these court pavements must be pitched to drain into properly placed area drains to carry off the rain-water. Waterproofing of these slabs is essential since they act as a roof.

Indeed, all the walls around the basement need to be waterproofed, as well as the floors. When concrete walls are built the use of an integral waterproofing compound is the common way of handling this problem. But where stone walls are constructed, some type of membraneous waterproofing is needed, which is usually felt and pitch, applied to the inside and run under the floors and protected on the walls with plaster. A better type is the layer of waterproofed cement mortar, which is spread over the interior face of the walls. In recent years the application of waterproofing layers to the inside of the walls, instead of to the outside, has become popular, for it has the advantage that, if any leaks develop, it is possible to locate and stop them from the inside of the cellar without expensive excavations.

However, proper drainage is necessary for all parts of the basement, even though the waterproofing of the walls is tight. In the bottom of all elevator-pits and coal-bin and other depressions, there should be installed drains which lead to a sump-pit. This sump-pit is located in the lowest level of the cellar, which is the boiler-room, and the bottom of it is dug to about 7 feet below this floor level. It is usually made about 4 by 6 feet, and is lined with concrete. Into it



the tiles which gather the ground waters under the floor and outside of the walls are carried as well as other drain-pipes from various pits. The water collected is pumped out at regular intervals by an automatic electric-driven sump-pump, and discharged into the sewer.

In addition to provision for subsurface drainage and water-proofing of the cellar walls, the cellar floor needs to be so well built that it will not settle or crack, permitting a break in the waterproofing, which is either mixed with it, or is under it in the form of a membrane of pitch and felt. Usually these floors are laid on a bed of cinders; but some advanced builders have resorted to a better method of constructing this cellar floor. Early in the progress of the building a 4-inch-thick slab of concrete is poured and tamped in place over the entire cellar area. This serves as a hard and temporary floor for the workmen. By the time the building nears completion, any cracks or settlements which are to take place develop in this rough slab. In finishing, the usual 6-inch-thick concrete slab is spread over the top of this hard base, with almost certain assurance of no future trouble.

Masonry Walls above Grade

If we now go above the basement level and examine the kind of walls which are used to enclose the building on the street and court sides, we will notice that the principles of construction are quite the same as for the walls of any ordinary building, and the bonds, the mortar joints, and the ashlar facing are identical to that described in one of the previous articles on the walls of non-fireproof apartments. Of course there are a few differences. The most important is the fact that the walls are the same thickness at the bottom that they are at the top, for steel wall girders support them at each floor level, thus making their actual structural height only that distance which exists from one floor to the other. As the outside wall is built up on top of the foundation wall by the mason, the facing and the back are carried up together to the wall girder at the second floor level. This girder is so placed that its flanges are 4 inches back from the outer face of the wall, which arrangement permits the mason to carry the face brick or ashlar up and over the wall girder. When he begins to lay the wall from the second floor up to the third, the backing is built upon and receives its support from the girder, but the face brick rests on the face brick of the section of the wall below. However, this facing is so well bonded into the backing that the wall is really a unit with it, making a total thickness of 12 inches.

Usually the backing of these walls is hollow tile, rather than common brick, for this type of wall is lighter, and consequently makes it possible to reduce the size of the steel members. But in many apartments the street walls, on the face of which there is much ashlar or special face brick, are constructed with common-brick backing, or bricks with holes in them, called hollow bricks. Nearly always, though, the side and court walls are built with hollow-tile backing. These tiles are so made that they permit the outside bricks of the wall to be bonded into them every sixth course. (See drawings.) In most apartments of this class the face bricks which are used in the courts are pressed, light yellow ones, the surface of which is quite smooth and capable of reflecting much light.

Even though the walls are backed with 4-inch hollow tile, the masonry around the columns in the wall is laid up with common brick, so that they are completely covered with at least 4½ inches of brick and mortar. The wall girders are also thoroughly protected by solid masonry. Their soffits and interior sides are covered with concrete,

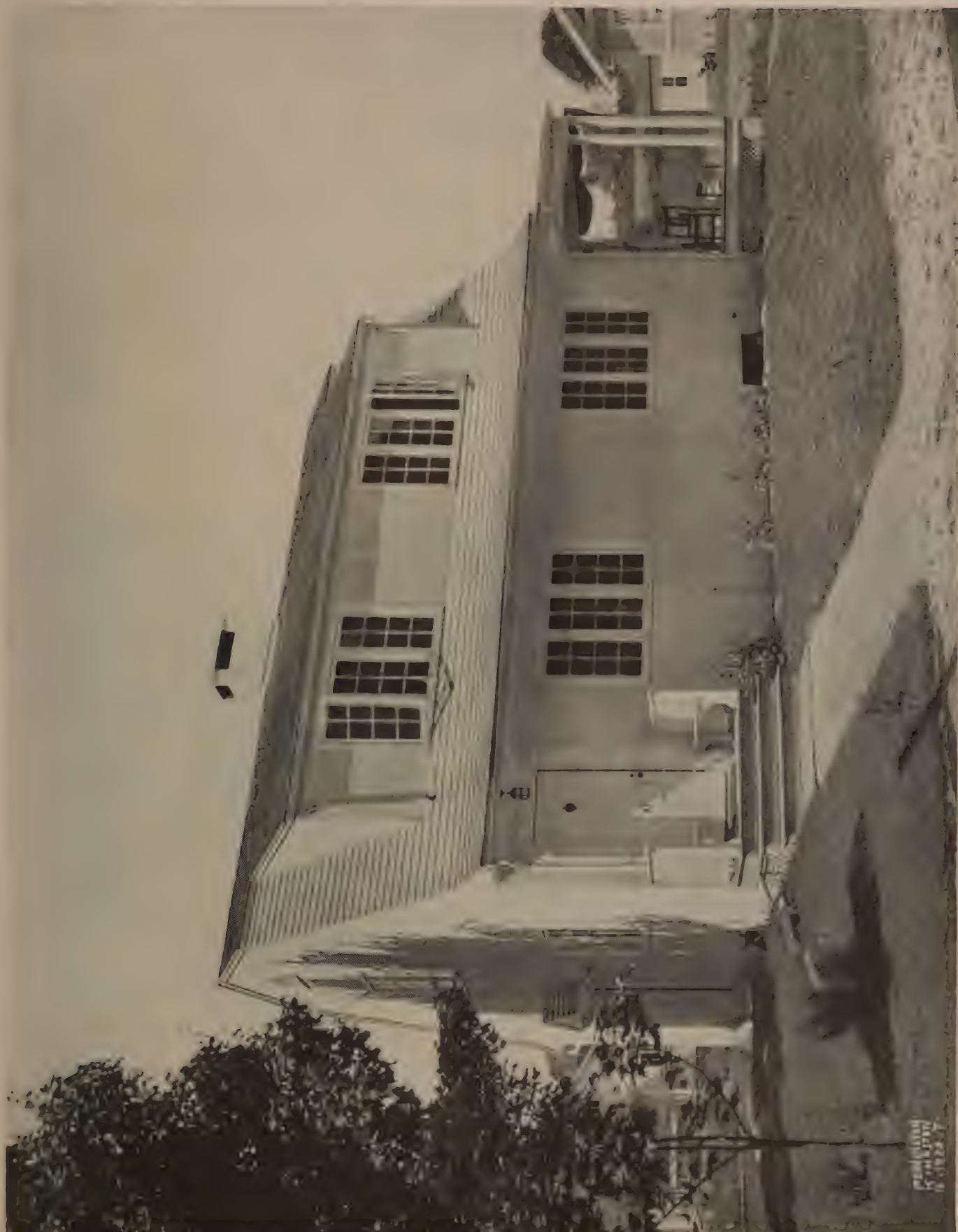
which is poured at the same time as the floor slabs. Sometimes this protecting concrete is made to cover the outside face of the wall girder as well, but more often, due to the lack of space between the exterior face of the wall and the flanges of the wall girder, the concrete is left off the outside of the wall girder, which is later protected by the covering of the face brick and mortar.

Lintel construction in these curtain walls enclosing the steel-cage construction is nearly as important as in any bearing wall. The window-frames are set up in place as in other types, and the masons build the brickwork up and around them. Over the tops of the window-frames, when the masonry has been brought up on both sides of them, steel angles are set in place, which serve to carry the face brick and the backing over the window, and up to the level of the next wall girder. Often the windows are near enough to the under side of the wall girder so that the backing of the wall can be omitted and only the face brick laid above the window. In such cases an open space is left above the yoke of the window to the concrete-covered soffit of the wall girder. The face brick on the outside of this opening is, of course, supported by a steel angle. Thus the wall at such points is really only 4 inches thick. Besides having the lintel angles free and independent of the rest of the steel frame, another method is employed by which all of them are bolted to the wall girders. When this system is used the lintels are fitted into place when the steel frame is erected, and the walls built up to them. Of course some adjustment is needed, and the bolt-holes are accordingly made like slots, to permit a small movement up or down to bring the lintels in line with the brick joints.

Stone, terra-cotta, brick, or concrete sills are set practically the same as in any other masonry wall. Cut-stone trim for doors and windows needs to be bonded into the brick backing, or to the wall girders by the usual flat anchors, and where terra-cotta is used for cornices, much anchoring and pinning is necessary to thoroughly fasten it to the steel frame. Special angles and brackets have to be built out from the wall girders and columns to carry cornice blocks that project far out from the face of the building. Every problem of this kind is a special one, and needs a special solution. The anchors and pins needed for terra-cotta cornices are often quite bewildering, and remind one of the numerous hairpins required in any extensive head-dress of a fashionable lady. There is some reason for many architects resorting to simple parapets to top off the walls of apartment-houses. Indeed, there is some justification in asking the question: Is the large projecting cornice on the steel-cage structure a logical architectural solution for the crowning motif of buildings which are fundamentally investments?

If we go above the cornice line and notice those parts of the structure which extend above the roof, such as pent-house, elevator-shafts, and stair-shafts, we will find certain standards of construction. Any large pent-houses which enclose laundries or servant rooms have their outside walls built of 8-inch-thick brick walls. Elevator and stair shaft extensions are constructed of the same hollow-tile blocks as their lower section below the roof, the outside of these tiles is covered over with a wooden lattice of furring strips, 16 inches apart vertically and horizontally, and the spaces in between the strips filled with mortar. Over the whole is fastened copper or galvanized corrugated sheet-iron, the wooden strips serving as nailing for the metal covering. Sometimes a water-proofed stucco is merely spread over the tile blocks.

(To be continued)



HOUSE FOR ALEXANDER AND LOUISE SHUFFELDT, KINGSTON, N. Y.

CHAS. S. KEEFE, ARCHITECT.



Second Floor Plan



First Floor Plan

Chas. S. Keele, Architect.



DETAIL OF PORCH, HOUSE FOR ALEXANDER AND LOUISE SHUFELDT, KINGSTON, N. Y.

Perplexities of Estimating

By DeWitt Clinton Pond, M.A.

SECOND ARTICLE

IT is difficult for an architect to understand the view-point of the owner in not a few instances. This is because he has been associated with the conditions surrounding his professional work for so many years that he loses sight of the complete lack of knowledge of architecture in any of its phases which is characteristic of the average layman. The layman is not to blame for this, although one may be apt to think so. It is not difficult for the architect to recall his ideas at the time that he decided to take up architecture, and a little thought devoted to the vague hopes and ambitions which he possessed at the time when he started his technical training will make him very tolerant toward a layman who may have an idea that the architect must design, build, and sell houses, or do other types of work connected with buildings.

In no department of architectural work is there more cause for misunderstanding than in that of furnishing preliminary estimates with regard to the cost of a building at the time when the preliminary sketches are being drawn. When there is practically no complete knowledge of the amount and kinds of labor and materials required to erect a house or other building which is being designed, the owner expects an architect to be able to tell what the cost will be. It is natural for him to think this, for, wherever else he goes, when sketches or models of work are presented for consideration, there is always a price set for the work represented. Why is it that this is not the case with regard to the practice of the architect?

The question of cost enters into almost every undertaking. Only in very rare instances are things purchased regardless of cost, and this is certainly true with regard to buildings. An architect would be as impatient as any one with a system that made it possible for him to view various designs of fabrics which he desired for the purpose of decorating a room, but which gave him only a vague idea as to how expensive they were. He would want to know how he could judge as to the action he might take unless he had some very definite idea as to the cost. The owner not unnaturally would want to know the same thing, and, owing to his experiences in other lines of work, would expect that the architect might be able to state the cost of a building operation at the time he presents his sketches.

This may seem absurd to the architect, but it is a fact nevertheless. President Cleveland once uttered the famous remark: "It is a condition, not a theory, that confronts us." Here is the condition—no matter how absurd one may regard it.

An actual example of the confidence that the average owner has in the preliminary estimate the architect furnishes came to the author's attention only a few months ago. A woman was having a house designed by an architect, and she had approved the preliminary plans and elevations. The architect had told her what he thought the house would cost—an estimate that coincided with the amount she expected to spend when she went to him for advice.

On a plot adjacent to her own a friend had built a house which the friend and her husband were having no small

difficulty in paying for. The cost was much higher than had been anticipated. When the woman with her preliminary plans had occasion to go through this house, she found that the plan was very similar to that of the one shown in her drawings, and that the elevations and materials varied but little. When she inquired as to the cost she was surprised to find that it was almost twice as high as her preliminary estimate. When she told another acquaintance about this she said: "I really couldn't tell her how much we were getting our house for. It would have made her even more discouraged. Her husband is almost sick with worry about paying for her house."

Here were two houses containing almost the same amount of material, requiring approximately the same amount of labor, built at a time when the price levels had varied but little and on adjacent lots, and yet one was expected to cost approximately one-half as much as the other.

Granting that in one case the construction profit was large and in the other it might be small, this factor, which was the only variable item in the cost, would not account for the difference. One who is familiar with the conditions surrounding building operations would have thought that, confronted with such conditions, the woman would have realized that the preliminary estimate was too low, but this was not the case. She thought that she was getting a bargain.

This may appear to be an isolated instance, but it is indicative of the average owner's attitude. With regard to larger building operations, owners are more apt to go to more trouble to obtain preliminary estimates, and in the case of one of the largest undertakings in the country the owners actually employed contractors who are noted for the reliability of their estimating department, to make very complete estimates. It is predicted that the actual cost of the building may vary as much as a million dollars from the amount stated.

It does not seem to make much difference with regard to the attitude of the owner whether the operation is large or small; much faith is placed in the preliminary estimate, and for this reason there is apt to be no small difficulty when this is compared with the final cost.

It would seem that the only wise thing for the architect to do is to inform his client that there is only one method which is worth anything of obtaining estimates, and that is to have working drawings and specifications prepared from which it is possible to take off the quantities of materials and to estimate the cost of labor. When a contractor has done this, and has made a bid which can be used as the basis for a contract, this bid can be regarded as the only estimate that is worth real consideration. Other estimates are mere guesses, to serve as indexes only.

Owners are usually impatient with the delay involved in this procedure, and this is particularly true with big undertakings where expensive plots of land must lie idle until the building is completed, which means tied-up capital. Under such conditions the owner is apt to favor the letting of a cost-plus contract—a type of contract which makes it

possible to start the work of construction before it is necessary to complete the drawings or specifications. There may be cases where the final cost of the building, built under such conditions, has been as low as the preliminary estimate, but the author does not know of such a case. In one instance the cost of a structure which was built on a cost-plus basis exceeded the preliminary estimate by five hundred thousand dollars—half a million. The preliminary estimate was prepared very carefully, based upon sketches which were almost working drawings and outline specifications. The architects, contractors, and sub-contractors were all of the highest type. If ever an estimate of this type could be relied upon it should have been in this case, but the cost exceeded the estimate by about 16 per cent.

There is much to be said for the cost-plus contract, for there is no doubt about the fact that time is saved, that the contractor is freed from the worry regarding a possible loss of money and is in a position to carry out his work in the best possible manner, and that the architect is relieved of the cares pertaining to extras which are unquestionably annoying. However, when an owner signs a contract of this type, he is virtually signing a blank check, for the cost of a building may reach any figure.

Organizations possessing enough capital and demanding a building at once, irrespective of cost, are sometimes justified in signing contracts of the cost-plus type, as time may be more important than money. During the war the government was practically forced to sign contracts of this type, for very obvious reasons. However, an owner should realize that when he signs such a contract the preliminary estimate is largely a matter of guesswork and must be regarded as an index.

All that has been said with regard to the cost-plus contract applies only to the type where there is no guaranteed cost. A contract in which the cost is guaranteed in effect is not much different from a lump-sum contract. No builder would sign such a contract unless he had a complete set of plans and specifications on which to base his estimate.

Architects to-day properly regard themselves as artists, and they feel that they have failed in their work if the buildings they design do not produce some kind of inspiration to all who see or use them. The working drawings of the plans and elevations, when looked upon in this light, become instruments of service designed to produce artistic results. As a matter of fact, however, such plans and elevations have a fundamental value aside from showing how artistic results are to be accomplished, for, together with the specifications, they form part of the contract which is the basis for the building operation.

As has been stated, the only manner in which the cost of a building can be determined in advance is by means of complete working drawings and specifications, from which the kinds and quantities of materials can be determined, and the cost of labor for installing this material can be estimated. It cannot be too emphatically stated that each building operation is a new undertaking—an individual piece of work—and estimates based upon similar work are at best shrewd guesses. No builder would sign a contract in which the amount to be paid was arrived at in this manner unless he decided to take a gambler's chance with the odds all in his favor. In order to determine the cost of an individual operation, under the conditions that will prevail at the time of erection, the kinds and quantities of materials must be determined from the drawings and specifications and then contracted for, and the cost of labor must be estimated with the prevailing labor conditions in view.

Another item which makes a preliminary estimate an

uncertain quantity is the question of foundations. Given two buildings of exactly the same size and containing the same kinds of materials, there is apt to be a great variation in the costs if one is built on high, dry soil and the other is built on rock through which there is a seepage of water. In one case the excavation is by no means a difficult or expensive matter and the drainage takes care of itself. In the other there is rock excavation, and a constant need of pumping water, and in addition there is the need of waterproofing the walls and floor of the cellar or basement, which may be costly.

There are times when excavating and foundation-work contractors cannot estimate the cost of this work, even if they have received all the information which the architect is in a position to give them, for it is often necessary to carry foundations to rock, and even with a number of borings made at different points on the plot it is impossible to tell exactly where the rock is. Under such conditions all that the contractor can do is to submit a unit price—so much per cubic yard—and the owner will have to bear the expense. There is a building being built in New York to-day for which the excavation and foundation work have cost as much as the estimated cost of all other work connected with the building. The difficulty that the architect would encounter in supplying a preliminary estimate to the owner under such conditions can be imagined.

All that has been said has been of a very general nature with regard to matters which are quite generally known by men engaged in either designing or building, but there are times when the zeal for artistic expression causes the architect to overlook the fact that his client may not know anything about such matters and may expect him to act as an expert estimator who can furnish him with the exact cost of his building at the time the preliminary sketches are prepared. It is therefore necessary for one who is to act as professional adviser regarding construction conditions to see that his client understands in a general way how costs are arrived at. It is also necessary, if future troubles are to be avoided, to outline clearly why preliminary estimates cannot be considered as accurate. The facts are plain enough and there should be no reason why there should be any misunderstanding with regard to them.

In spite of the fact, it would appear that the ordinary estimate which the architect is called upon to present to the owner is not very apt to agree with the actual cost of the building operation; still under the conditions it is the best that he can supply, particularly at the time when he is expected to do this. With only preliminary sketches as a basis he is unable to obtain bids from subcontractors as to the cost of their branches of the work, and their guesses, based upon such general information as the architect can give them, are but little better than the architect's. Without specifications to act as definite guides it is impossible to list all the various kinds of materials and to determine their cost. And so there is as little hope of arriving at a correct cost, even when the various trades are separated and the amount of their work calculated, as there is if the preliminary estimate is based upon the cost per cubic foot.

As the question of cost enters into a building operation as much as into any other undertaking, and as about the only manner in which the architect can estimate is on the cost per cubic foot, estimates of this type often have a certain value if both the architect and the owner have definitely in mind the limitations within which it is safe to act. Bearing in mind then all the limitations on this kind of estimating, the following article will take up the problems found in such type of work.

Book Reviews

AN ARCHITECTURAL PILGRIMAGE IN OLD MEXICO. By ALFRED C. BOSSOM. Large folio. Illustrated with many photographs and drawings by the Author. Charles Scribner's Sons, New York.

Mexico is a comparatively unknown country to most Americans, and we dare say that very few architects have fully appreciated the remarkably interesting and picturesque architecture that this country offers to the student. The ordinary photographs that we see in occasional books of travel about Mexico, or in the Sunday newspapers, give but a very incomplete idea of the wonderful variety and richness of Mexican architecture which, while constantly suggesting the obvious influence of the Spanish Baroque, and often seemingly overwrought in its details, is yet abundantly full of suggestion for the designer of the modern public or commercial building.

"Colonnets, capitals, mouldings, and domes in most unusual color effects abound everywhere, and the result was obtained partly by pigments and partly by tiles, as bizarre and unexpected as anything that has come out of Russia, Austria, or France. With the result that such richness of effect exists nowhere else on the North American Continent, and age has only added to its charm.

"The outstanding features of this fascinating period of architecture evolved by these ancient Spaniards are the open arcades (porches we call them), and the large unbroken surfaces which form the mass of the wall between the elaborate and often most artistic surrounds to the doors and windows. No matter how unusual or elaborate this enrichment might become, however, it always had a foil in the unbroken wall surfaces which provided the essential contrast.

"Panelled doors of unique character (the latter without finish as we understand varnish or paint), delicate metal balconies, iron and wooden grilles, helped to make up a style of architecture so free, so largely suited to our temperament and needs, that it would seem as if the 'American point of view' had found its expression in architecture on this continent centuries ago, in this group of educated Spaniards who desired to design in beauty and construct in truth."

Mr. Bossom evidently thinks that the architecture of Mexico is a more natural source of inspiration for our modern designers than our much admired and used Colonial:

"The American country home, perhaps the most thoroughly appointed of any in the world, has been largely adopted from styles of architecture primarily unsuited to this climate, and to the mode of living of its occupants. The ideal house should be a portrait of the life lived within its four walls. Colonial houses, charming to a degree, invariably possess a satisfying regularity, but this sometimes leads to an austerity of feeling and difficulties in the internal arrangements. Windows often do not fit into the most desirable places in the rooms. The ceilings frequently are low, making the rooms far warmer than it is desirable to have them, and though such difficulties may be largely overcome when handled by a trained designer, the style does present limitations."

Grafted upon the Spanish inheritance are many elements of ancient Aztec and other early civilizations that add a unique and often barbaric character full of originality and of vigorous power in the use of decorative elements. Mr. Bossom has made a study of Mexican architecture for a number of years, and he has presented in this sumptuous volume a remarkable and representative series of photographs together with a number of his own drawings. He thinks that much use could be made of various Mexican details, especially in the way of ornament and in the reconstructing or even in the designing of new buildings in this country. He speaks especially of the delightful arcades or porches and the large unbroken surfaces of the walls and of the artistic surrounds of doors and windows.

He also dwells on the charming use of color in the various burnt clays, terra-cotta, etc., which form such attractive decorative features of Mexican architecture, and which might be applied more freely to the walls of our modern business towers. Of our American architecture the author says (he is an Englishman, trained in the English schools, but has practised his profession for a number of years in this country):

"American architecture undoubtedly will take its place in the world upon its commercial buildings, and the design of these is rapidly taking the path that the materials composing them require. Forms defined by the

use of steel or concrete faced with some readily handled materials, which can be tied on to this frame, such as thin slabs of stone, brick, stucco, or terra-cotta, are creating the dominant features of skyscraper architecture.

"The introduction of color by the use of burnt clays, terra-cotta, or faïences, all of which are capable of reproduction at comparatively small cost, is fast forming an ornamental feature of the greatest buildings of the country, and it was in instinct the same theory that controlled the work in Mexico years ago.

"America is a commercial nation with very strong artistic tendencies, but commercial buildings have to be commercial; competition has made them so. A building is a financial undertaking, and beauty, though essential, is subservient within reason to the production of revenue in money or happiness.

"An investor will not put additional capital into a structure merely for the sake of maintaining some architectural lines, unless he really sees a definite return from so doing. A building must be constructed of the best possible material to withstand wear and tear, but it must also be designed in a manner that will bring in a revenue commensurate with the amount of investment."

Included among the illustrations are a number of famous churches, public buildings, interesting façades, walls, courtyards, gateways, towers, doors, windows, balconies, stairways, interiors, and other details.

The book is a distinct contribution to the history of architecture on the American continent.

ART IN OUR COUNTRY HAND-BOOK. The American Federation of Arts, Washington, D.C. Illustrated.

A useful and encouraging little guide to what to see of an interesting art character in 672 cities and towns throughout the country. Architecture, sculpture, painting are all considered, and in the first specially notable buildings are pointed out, and the names of the architects usually given.

Did you know that Cass Gilbert was the architect of the City Hall, Waterbury, Conn.; that there is a church in Wayland, Mass., designed by Bulfinch; that the statue of the Revolutionary soldier in Dansville, Ill., is by Paul Manship?

Wherever you go this little book will point out the things that will

appeal to the lover of the arts, and you will be surprised to learn how many things there are that you have probably never heard of.

It should stimulate local pride in good architecture and art all over the country.

There are few things that add as much distinction to any local community as some outstanding building, statue, collection of paintings, and to make them better known is to add to the justified pride that goes with their possession.

SMALL HOUSE DESIGNS. Collected by Community Arts Association of Santa Barbara, Calif. Edited by CARLTON MONROE WINSLOW and EDWARD FISHER BROWN. Published by the Community Arts Association of Santa Barbara, Calif.

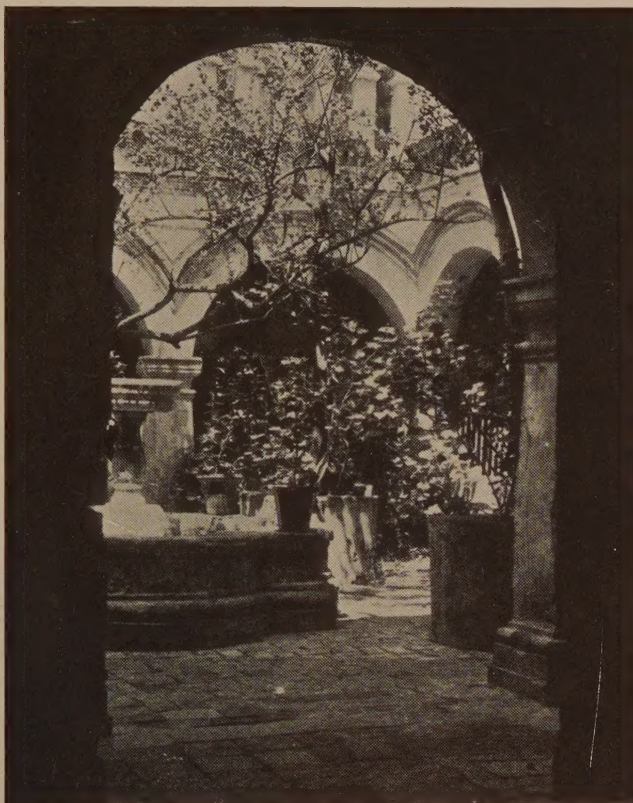
"The Community Arts Association of Santa Barbara, Calif., through its Plans Division interested in enhancing the attractiveness of the city, inaugurated a competition for the best design of a house to cost not more than \$5,000." The results of this competition are shown in this book and we commend it to the serious consideration of all of our readers.

In addition to the elevations and plans shown there are useful "Hints to Home Builders," "Ways to Lower Home Building Costs," "Financing the Small House."

The designs include: "Spanish-California Type Designs," "English Rural Stucco Type Designs," "Wood Exterior Type Designs."

Primarily planned for the California climate we see no reason why they should not be adapted, with suitable heating apparatus, to almost any place. Their charm lies in their delightful simplicity, combined with enough picturesqueness of detail to relieve them from monotony.

It has been a long time since we have looked over a book of small-house designs with so much pleasure and satisfaction.



View in courtyard of the convent at Churubusco.

PLAN READING AND QUANTITY SURVEYING. By CHARLES F. DINGMAN. McGraw-Hill Book Co., New York.

This should prove a valuable and useful little book. Its purpose is to delineate the methods to be used in scaling quantities from plans of projected buildings, and to set those quantities down in such form as to make them available for the estimator, whose task is to estimate the cost of necessary materials, and labor to produce the finished structure. Among the chapter heads we note: Excavating, Grading, Bracing, Plain and Reinforced Concrete Work, Stone Work, Architectural Terra-Cotta, Brickwork, Fireproofing, Cement Blocks, Lathing, Plastering, Stuccoing, Frame and Rough Carpenter Work, Glass and Painting, Steel and Iron Work, Terrazzo, Marble and Tile Work, Electrical Wiring. The small size of the book makes it a handy reference to carry about in the pocket.

DISTINGUISHED AMERICAN ARTISTS. Abbott Thayer, with an Introduction by Royal Cortissoz; Winslow Homer, with an Introduction by Nathaniel Poussette-Dart, compiler of the series. Frederick A. Stokes Co., New York.

These little books about our leading painters made up chiefly of illustrations are decidedly worth while. They help to familiarize many with work that they may not have the privilege of seeing in the galleries, and we believe the best way to make our public appreciate the beauty and distinction of American art is to persuade them to look at it.

The brief introductions give an impression of the personalities and there is a list of various awards and places where the artists' pictures may be seen.

PENCIL DRAWING. By WILLIAM P. SPRATLING, Instructor in Architecture, Tulane University of Louisiana. Illustrated with ten drawings by the author. The Penguin Book Shop, New Orleans.

This little book, with its charming drawings in pencil, deals in a thoroughly practical way with Pencil and Paper, Masses and Planes, Line, Values and Rendering, Composition, Indication and the Sketch.

ADVERTISING CAMPAIGNS. By Harry Tipper and George French. D. Van Nostrand Co., New York.

Advertising has become one of the learned professions. It has engaged

the services and brains of thousands of young men just out of college and we have had books written on the subject by university professors. The psychologist has taken a fall out of this vital topic, and the how of better salesmanship in writing and planning an advertising campaign is a subject for the student of all business.

Advertising pays, of course, but it pays better when the advertising is planned on a thorough knowledge of the principles that govern it.

Millions of dollars are wasted on haphazard methods by the inexperienced. This book is planned by men of long experience to save waste and make the business of advertising a logical and systematized performance.

It covers such important matters as Investigating the Product, Investigating the Market, Planning the Campaign, Operating the Campaign.

The author's chief purpose is to make clear "the mechanical operation of the advertising campaign," and we think this has been achieved.

It has the rare merit of being written in unaffected and clear terms.

PICTURESQUE CHINA ARCHITECTURE AND LANDSCAPE: A JOURNEY THROUGH TWELVE PROVINCES. By Ernest Boeschmann. Brentanos, New York.

This is another of a series of sumptuously illustrated books of travel that have come to us by way of Germany. The plates are made from excellent photographs and many of the architectural and decorative subjects are full of interesting suggestions for the profession. The introduction is a scholarly essay on the part that religion has in all of China's architectural conceptions. An understanding of this is essential to "an understanding of the buildings themselves."

CRAIN'S MARKET DATA BOOK AND DIRECTORY OF CLASS, TRADE, AND TECHNICAL PUBLICATIONS. By D. CRAIN, JR., Chicago.

The basic idea of the book is the presentation of the statistical and marketing data regarding each industry, trade, and profession for the purpose of enabling the advertiser or merchandiser to obtain a picture of the field as a whole. It makes a reference book of value to the advertiser in all fields.

Announcements

Emmet G. Martin, architect, formerly manager of the offices of Albert C. Martin, architect, has opened offices for the practice of architecture at 603 Citizens National Bank Building, Los Angeles, Cal. Arlos R. Sedgley, architect, is in charge. Manufacturers' catalogues are requested.

Carl E. Macomber, architect, formerly located at 310 Forester Building, 131 South Franklin Street, Saginaw, Mich., has moved his office to the Board of Commerce Building, 234 North Washington Avenue.

Clifford F. Reichert, architect, announces the opening of his office at 1003 Starks Building, Louisville, Ky. Manufacturers' catalogues and samples are desired.

Benjamin E. Irby, A. I. A., architect, announces the opening of his office at 324 Deutser Building, Port Arthur, Texas, for a general practice. He will be associated with Livesay & Wiedemann, architects, Beaumont, Texas, and Mildred Irby, interior decorator, New York City. Manufacturers' catalogues and samples are requested.

Mr. Strawn Gay, in charge of the La Salle, Ill., office of John Hanifen, architect, Nertney Building, Ottawa, Ill., has moved to larger quarters in the second floor of the Tribune Building and desires manufacturers' catalogues and samples.

Byron Sutton has formed a partnership with Mr. Lester W. Routt and will continue the business at the present address under the firm name of Sutton & Routt, architects and engineers, Citizens Trust Building, Vincennes, Indiana.

Starrett & Van Vleck, architects, 8 West 40th Street, New York, Ernest A. Van Vleck, Oran W. Rice, and Ernest Brooks, announce that Frank Gaertner, Herbert M. Hathaway, Otto A. Johnson, and Edgar L. Kirby, have been admitted to partnership with them and that the business is to be continued under the present firm name.

Oren R. Thomas, Donald M. McLennan, and Carl S. Thomas, formerly of the organization of William Gordon, A. I. A. (deceased), wish to inform you that they have taken over the uncompleted work, equipment, and office building and have entered into a partnership for the practice of architecture under the firm name of Thomas, McLennan & Thomas with offices at 527 West 17th Street, Des Moines, Iowa.

Clifford Shopbell & Company, architects, announce a reorganization under the name of Shopbell, Fowler & Thole, incorporated, 707 Furniture Building, Evansville, Ind.

Arthur D. Russell, interior decorator, Chas. De Torres, painting contractor, associated, announce the opening of their new studio at 257 West 75th Street, New York City.

Wilford S. Bogue, architect, 206 Wheat Building, Fort Worth, Texas, will be glad to receive manufacturers' catalogues and samples.

Thomas & Allen, architects, Terre Haute, Indiana, announce the removal of their office from 25½ South Fifth Street to The Swope Block, Room 39.

Back Numbers Wanted

The New York Public Library, Astor, Lenox, and Tilden Foundations, Acquisition Division, 476 Fifth Avenue, would greatly appreciate the gift of the following numbers of ARCHITECTURE to complete their files: Vol. I, nos. 1, 3, 16; vol. II, nos. 7-9, 11-12, 1900. Vol. V, nos. 25-29; vol. VI, nos. 31-36, 1902. Vol. VII, nos. 37-42; vol. VIII, nos. 43-48, 1903. Vol. IX, no. 51; vol. X, no. 60, 1904. Vol. XI, nos. 1, 4; vol. XII, nos. 1-6, 1905.

Winter Operation

From an Address by Alfred S. Alschuler, Architect, at the Meeting of the Associated General Contractors, Chicago

BUILDINGS are constructed not only of brick and steel and wood, but with every bit of mortar there is mixed a certain amount of sentiment; a dream long visioned to be materialized; a vision long anticipated fully realized.

For it is this human hope and ambition to own a home to shelter one's family, to provide meeting-places where human beings may gather for mental or spiritual improvement, or to house growing industries in which all one's energies are centred—it is for the realization of such hopes and dreams that buildings are transformed from visions into substance.

All this may at first glance seem to be entirely foreign to the subject of this paper, but upon further thought you will realize that this hope and sentiment which plays such an important part in human affairs is, after all, affected and influenced not only by material considerations but largely by what we are pleased to call "psychological conditions."

The man who has been saving for years to build a home for his family or for his industry usually puts off the final decision to act until his mind is made up—or, to put it in other words, until the mood strikes him.

It is hardly necessary to state that such moods in human beings follow closely other natural phenomena and that spring is the most likely and winter the least natural time for such moods to be brought about and decisions reached. There is daily evidence of such moods, easily corroborated by all salesmen, who prefer to solicit a customer in sunshiny weather and would save their efforts on dark or gloomy days. So it is this psychological aspect which must be considered in trying to overcome the prejudice against and inertia toward winter operation.

I have made an analysis of various charts showing monthly operation over a period of years and have assembled this information in a new chart, which I am submitting herewith. This chart indicates the average monthly operation over a period of years in the larger cities of the United States which are influenced by climatic conditions. This chart represents a very large percentage of the work done in the United States, and clearly indicates a season of tremendous activity from March 1 to October 1, a gradual decline for October and November and a sharp decline for December, January, and February. It is unnecessary to state the tremendous advantage arising therefrom and affecting both capital and labor where such seasonal operation exists and the desirability of overcoming this as far as possible. This condition varies considerably according to climate, but for present purposes I have assumed a belt or zone, including Chicago and New York, under which conditions a very large proportion of the building operations of this country are carried on.

Has He Taken Your Subscription?

WE have received the following letter from A. Storrs Barrows, architect, 56 James Street, Rochester, N. Y.: "There has been a party going under the name of W. H. Lander Company, 203 Washington Street, Buffalo, N. Y., with stationery and bill-heads so printed. The so-called Mr. Lander, a well-appearing man, took my subscription for an English publication, *The Architectural Review*, for which I gave him my check for \$7.00. He left a copy of the magazine for the current month and later delivered to me in person a magazine for the following month. The

reason for this was, as I believe, to prevent any suspicion during his stay in Rochester and give him ample time to make a getaway. This man took a good number of orders from men and women of this city and even secured a large order with initial payment from a local bookstore.

"I have investigated through our Chamber of Commerce and find that he is wanted in Buffalo for a similar operation. The address of his stationery is that of the Red Triangle Inn, where he stopped one day, and more information of Mr. Lander is desired by that place.

"He has reaped his harvest in this section of the State, and your publication can make his activities known so that he may possibly be apprehended in some other locality, and the profession as a whole be on its guard against him and similar agents."

Honorary Fraternity in Architecture

TAU SIGMA DELTA, Honorary Fraternity in Architecture and Allied Arts, announces the election of officers to the Grand Chapter:

Grand Master: Professor George Fraser, College of Architecture, Cornell University, Ithaca, N. Y. *Grand Recorder* (Secretary and Treasurer): Mr. John E. Somppi, care of Ernest H. Trysell, architect, 712 Donovan Building, Detroit, Mich. *Grand Scribe:* Professor W. C. Ronan, Department of Architecture, Ohio State University, Columbus, Ohio. *Vice-Grand Officer:* Professor P. H. Elwood, Jr., Department of Landscape Architecture, Iowa State College, Ames, Iowa.

Tau Sigma Delta is an organization similar in purpose to Phi Beta Kappa, Sigma Xi, or Tau Beta Pi, but it limits its membership to honor students in Architecture, Landscape Architecture, Painting, and Sculpture. Chapters are maintained at recognized schools or departments in Architecture, Landscape Architecture, Painting, and Sculpture of the various universities, where four or five year courses, leading to a degree in courses taught in those schools or departments, are given. The Grand Chapter will consider establishment of Chapters at any recognized university having schools in Architecture, Landscape Architecture, Painting, and Sculpture, which give a four or five year course in these schools leading to a degree in those subjects taught.

Announcements

The firms of E. B. Van Keuren & Co., engineers and mill architects, William L. Denham, architect, and George E. Denham, associate, announce the consolidation of their offices November 1, for the practice of architecture and engineering, under the firm name of Denham, Van Keuren & Denham, architects and engineers, Herald Building, Birmingham, Ala.

D. S. Douglass, architect, 83 Kenyon Street, Hartford, Conn., would like to receive catalogues and samples.

Theodore S. Williams and Edward G. Oldefest, architects, announce the removal of the offices of Oldefest & Williams. Their new address is Lake Shore Bank Building, 605 North Michigan Avenue, Chicago.

The recent exhibition at the Arden Gallery, 599 Fifth Avenue, Scribner Building, of paintings by Nikolai Fechin, attracted unusual attention. The exhibitions at this important gallery are among the most interesting of the Art season. They have an especial appeal for architects and all interested in the decorative arts.

Reception room of The Erickson Company, New York. The artistic distinction of the room is enhanced by the floor of Gold-Seal Treadlite Tile, in a harmonizing pattern of buff and fawn gray tiles.



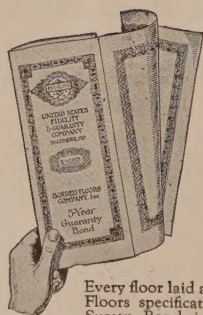
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We will gladly send complete information on the Surety Bond, specifications covering the installation of resilient floors, and literature descriptive of Bonded Floors.



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